COUNTY OF LOS ANGELES

GREEN BUILDING TECHNICAL MANUAL

2011 Edition

County of Los Angeles
Green Building Program
Department of Regional Planning
Department of Public Works

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INTRODUCTION

Introduction to Green Building and Sustainability

Welcome to the Los Angeles County Green Building Technical Manual. Creating the County of Los Angeles Green Building Program was a joint effort between the Departments of Regional Planning and Public Works. This Manual will help you comply with the Los Angeles County Green Building Program. This Manual also serves as a resource to help you build sustainable practices into your developments.

California has long been a national leader in environmental initiatives that conserve our natural resources. Los Angeles County is a leader in setting standards for energy and water efficiency, renewable resources, recycling and waste management, fuel efficiency, planning and land use. Since the mid-1990's, the County has implemented energy efficiency projects in County facilities that have resulted in over $110 million in cumulative energy savings. In terms of carbon mitigation, the cumulative energy reduction due to these projects is equivalent to 800 million pounds of CO2 mitigated, 10,000 cars taken off the road, or 15,000 acres of trees planted. The County has also taken steps to convert its vehicle fleet to vehicles that use alternative fuels. Currently, 8.1 percent of the County's vehicle fleet uses alternative fuels.

More recently, the County imposed requirements on its own buildings and introduced new environmental programs to the public. As of February 15, 2007, all new county buildings 10,000 square feet and up must achieve Leadership in Energy and Environmental Design (LEED) Silver certification. On July 1, 2008, the County began the Single Use Bag Reduction and Recycling Program. The purpose of this program is to reduce the number and environmental impact of the estimated 6 billion single use plastic bags used annually in Los Angeles County. In April 2009, the County released the Los Angeles County Solar Map internet website, to assist residents throughout the county in determining their properties' potential for the installation of solar panels. Effective January 1, 2009, the County Green Building Program went in to effect, setting green standards for almost all new development. Regional Planning's~~The County's~~ website **http://green.lacounty.gov** provides updates on the many activities that support national, state, local and the County's own policies on energy and the environment. Additional details on the Green Building Ordinances and LEED for County Buildings are available at The Los Angeles County Energy and Environmental website at http://green.lacounty.gov/green_buildings.asp ~~provides.~~

The County of Los Angeles Green Building Program consists of three ordinances, this ~~manual~~ Manual and the Green Building Program Implementation Task Force. The ordinances can be found on the Department of Public Works and the Department of ~~Public Works~~Regional Planning websites at http://dpw.lacounty.gov/ ~~http://ladpw.org/~~ and http://planning.lacounty.gov/~~http://planning.co.la.ca.us/~~. This Manual explains the requirements for two of the three ordinances, Green Building and Drought–Tolerant

Landscaping. This Manual also provides information on technologies and resources that will help you meet the ordinance requirements. You can find technical information and requirements on the third ordinance, Low Impact Development (LID), in the ~~"~~*Low Impact Development Standards Manual*~~"~~ maintained by the Department of Public Works (see page 8 for details). The Task Force, composed of ~~both~~ County staff, building industry related stakeholder groups, and the public, is responsible for educating the public about the County's Green Building Program and maintaining and updating the standards for all three ordinances.

The essence of the Green Building Program is sustainable development - *"development that meets the needs of the present without compromising the ability of future generations to meet their own needs."*[1] Conventional buildings account for 72% of electricity consumption, 39% of energy use, 38% of greenhouse gas emissions, 40% of raw materials use, 30% of waste output, and 14% of potable water consumption. Construction of new buildings must use materials, and water more efficiently and have less of a negative environmental impact than conventional buildings. As technology advances, sustainable products become more efficient and more affordable for use. The goal is to create zero energy buildings, buildings that create as much energy as they use.

Conventional building practices emphasize only the final cost of construction. Green building stresses sustainability through the lifetime of the project - design, construction, occupancy, and finally demolition or reuse. Construction costs may be slightly higher in the beginning when building green, but savings exceed the difference over the lifetime of the building. Building green adds a 3-4% increase to the building costs for residential projects[2] and adds less than 2% increase to the building costs for non-residential projects[3]. Green building can save annually up to 50% on water costs and 35% on energy costs, where the savings on energy is equivalent to a 40% reduction in CO2 emissions. Green buildings also provide a healthier indoor environment for ~~its~~ their occupants. Studies show that healthier indoor environments, including cleaner air and natural lighting make people happier and more productive[4].

From a small house to a new retail mega-center, every new project must meet Green Building Program requirements. The Manual's Resources chapter contains green technologies, products, and design techniques that are fairly simple, inexpensive, and easy to install. The Manual also has technologies and products that are more expensive or ~~are more~~ complex, but return much larger economic and environmental benefits. The design stage is the most cost-effective place to incorporate green technologies and resources into the project. Early coordination for constructing green buildings can save projects from potential costly and numerous redesigns in order to accommodate green components at a later stage in the building process.

[1] United Nations, Department of Social and Economic Affairs. 1987. Report of the World Commission on Environment and Development (The Brutland Commission)
[2] California Building Industry Association, 2008, http://www.cbia.org/go/cbia/government-affairs/green-building/
[3] Kats, Greg, 2003, The Costs and Financial Benefits of Green Buildings: A Report to California's Sustainable Building Task Force
[4] US Green Building Council, 2005, Making the Business Case for High Performance Green Buildings

The adoption of the Green Building Program is one of Los Angeles County's steps towards a sustainable future. This Manual is intended to assist both homeowners and building industry professionals in planning new sustainable buildings~~. We hope that this Manual is a useful resource in designing your project~~ for a better, greener world.

Overview of the Green Building Program

Overview of the Program

The County of Los Angeles' Green Building Program went into effect ~~starting~~ on January 1, 2009. This program is comprised of three ordinances~~: --~~the Green Building, Low Impact Development, and Drought-Tolerant Landscaping~~, --~~and an Implementation Task Force. The Green Building Ordinance requires use of materials and techniques that improve energy efficiency ~~of~~ by at least 15% above 2005 Title 24 requirements and ~~that~~ create less air and emission pollution. The Low Impact Development Ordinance requires special design features that allow infiltration of stormwater on-site to reduce water pollution and recharge local water supplies. The Drought Tolerant Landscaping Ordinance requires landscaping with specific plant species with very low to low water needs, and limits high-maintenance plants and water-soaking turf. The Task Force reviews all green building standards and rating systems, and makes recommendations to the County governing bodies for approval. The intent of this Program is to promote sustainable development, improve air and water quality, conserve energy, water and raw materials, and reduce carbon emissions into the environment. The County recognizes the need to conserve scarce resources as the County continues to build and grow. The program is designed to take into consideration different climates and geographies across the County as all types of new development in the unincorporated areas of the County are required to build green.

These ordinances ~~will~~ affect *new* development projects submitted after January 1, 2009 for non-residential and residential buildings with five (5) or more units, and April 1, 2009 for residential buildings with four (4) or fewer units. The Low Impact Development and Drought-Tolerant ordinances also apply to most projects with existing structures sla~~n~~ted for remodeling or expansion above a certain threshold, with a few exceptions. A few agricultural and industrial-related uses and structures are exempt from the program.

Why Build Green?

The County is committed to building green~~. Enactment of this Green Building Program will~~ to meet the following goals:

- Improve public health
- Construct better-quality and longer-lasting buildings
- Conserve energy, water and natural resources
- Reduce carbon emissions and carbon footprints
- Comply with ~~AB 32 —~~the Global Warming Solutions Act of 2006, also known as AB 32
- Comply with Part 11 of Title 24 (California Building Standards Code) of the California Code of Regulations, also known as CALGreen
- ~~Incorporate new green policies and standards into the General Plan and Zoning~~
- ~~Ordinance Update~~

Initially, it may cost a little more to build green. However, the benefits of enormous savings in energy and water, as well as higher property values over the long term, make it a very

worthwhile investment. There are many incentives and grants available to help defray some of the costs~~. Check out~~ , as described in the Incentives section ~~in these *Guidelines* for these funding sources~~.

Why do we need to make buildings ~~more green~~greener? In the United States alone, buildings account for approximately:

- 65% of electricity consumption~~,~~
- 36% of energy use~~,~~
- 30% of greenhouse gas emissions~~,~~
- 30% of raw materials use~~,~~
- 30% of waste output (136 million tons annually)~~, and~~
- 12% of potable water consumption.

The built environment has a profound impact on our natural environment, economy, health, and productivity. Building green helps reduce consumption and conserve resources, as well as save money in operations costs.[5]
~~Source:~~

Legislative Requirements

About Assembly Bill 32 (AB 32)

In 2006, the California Legislature passed and Governor Schwarzenegger signed AB 32, the Global Warming Solutions Act of 2006, which set the 2020 greenhouse gas emissions reduction goal into law. It directed the California Air Resources Board (ARB) to begin developing discrete early actions to reduce greenhouse gases while also preparing a scoping plan to identify how best to reach the 2020 limit. For more information, including details on the specific requirements, please visit the California Air Resources Board's Climate Change Program website at www.arb.ca.gov/climatechange.

About the 2010 California Green Building Standards Code (CALGreen)

CALGreen applies to both residential and nonresidential uses and is divided among specific building types and among the four state agencies – Building Standards Commission, Department of Housing and Community Development, Division of the State Architect, and Office of Statewide Health Planning and Development – that carry specific authority over certain building standards. Within each building classification, CALGreen establishes a set of mandatory provisions and two separate sets of voluntary code provisions. The sets of voluntary measures are referred to as CALGreen Tier 1 and CALGreen Tier 2. Municipalities are required to adopt the mandatory provisions but can also choose to incorporate the voluntary measures as part of the local building standards. CALGreen is designed to gradually add environmentally-friendly measures in subsequent iterations. For more information, please visit http://www.bsc.ca.gov/CALGreen.

[5] Source: www.usgbc.org/DisplayPage.aspx?CMSPageID=1718

Green Building

The goal of building green is to minimize negative environmental and human health impacts ~~as~~ caused by construction, maintenance and operation of buildings. Incorporating new green standards into development practices will improve public health, save energy and conserve water. These measures aim to maximize:

- Energy efficiency through efficient building envelopes, high-performance materials, energy-efficient appliances, equipment and fixtures, and reduced need for imported water~~.~~;
- Water efficiency through well-designed appliances and fixtures that use less water~~.~~;
- Improved interior air quality through better ventilation and less toxic paints and finishes~~.~~;
- Improved outdoor air quality through landscaped trees to provide shade for buildings, reduce the heat island effect, reduce carbon emissions, and provide oxygen and absorption of pollutants~~.~~; and,
- Resource conservation through reduced waste, increased use of recycling materials, and more efficient building design.

~~Starting~~ Since January 1, 2009, all new development projects ~~will be~~are required to meet County green building standards. As of ~~, with the exception of single family residences, for which requirements will be required on on~~ April 1, 2009, the requirements apply to single family residences, as well. ~~Beginning~~ Since January 1, 2010, non-residential buildings over 10,000 square feet and other large-scale residential buildings and subdivisions must meet Leadership and Energy and Environmental Design™ (LEED), GreenPoint Rated™ (or, prior to January 2011, California Green Builder standards) or the equivalent, as determined by the Department of Public Works, depending on type of use and size of development. All projects above certain sizes must plant trees on-site, with the number of trees required based on the developed portions of the lot. Landscaped trees already required by other sections of the County Code (i.e., Community Standards District) will count towards satisfying this requirement.

The requirements for the Green Building Ordinance (Ordinance No. 2008-0065) can be found at: http://planning.lacounty.gov/assets/upl/project/green_20080507-greenbuilding-program-ordinances.pdf.

Low Impact Development

Low Impact Development (LID) is an approach to site design and development that manages and treats stormwater and other urban runoff. It retains rainwater on-site, prevents pollution in the waterways, and recharges the watershed and groundwater with on-site infiltration systems. Features of LID include best management practices (BMPs), which are designed to allow re-absorption into the ground and to prevent water from flowing across pavement and other impermeable surfaces and collecting oil, debris, and other pollution before dispersing into the stormwater and river channels that lead out to the ocean. Examples of such BMPs include: permeable paving and decking, rain gardens, rain barrels and dry wells, smart irrigation, planter boxes, swales, and infiltration trenches.

All projects, including remodels and additions, are required to implement BMPs listed in the *Low Impact Development Technical Manual,* maintained by the Public Works Department. Large residential and all non-residential projects must submit a Low Impact Development Plan for review and approval by Public Works. Calculations will be needed as part of the LID Plan to ensure that a certain amount of rainwater can be collected and treated on-site.

All information related to low impact development can be found in the *LID Technical Manual*, which is located at: http://planning.lacounty.gov/assets/upl/project/green_la-county-lid-manual.pdf ~~(on Department of Regional Planning's Green Program webpage)~~.

The ordinance (Ordinance No. 2008-0063) delineating the requirements is located at: http://planning.lacounty.gov/assets/upl/project/green_20080507-green-building-program-ordinances.pdf.

Drought-Tolerant Landscaping

Drought-tolerant landscaping encourages conservation of water and use of plants that are climatically appropriate for Los Angeles County. It also aims to reduce the overreliance of water-soaking turf grass for landscaping. The ordinance establishes guidelines for plant material selection, planting techniques and maintenance of landscaped areas, for the purpose of maximizing water efficiency. The ordinance also imposes limits on the amount and placement of turf grass species to ensure they are appropriately used.

All new projects, regardless of size and type, with certain exceptions, are required to plant drought-tolerant species, and, where appropriate, encouraged to plant~~ing of~~ native species in landscaping. At least 75% of the required landscaped area on a lot must be planted with only drought-tolerant species. For single family residences, this 75% requirement will be imposed only in the front yard. Drought-tolerant plants must be selected from an extensive list of approved landscaping plant species and materials that are appropriate for each of the seven ecological zones of the County, which is available on Regional Planning's website at: http://planning.lacounty.gov/spGreenBuildingProgram.htm.

Landscaped plants are required to be planted in hydrozones, areas that group plants with similar sun and water needs, for more efficient water irrigation. The ordinance (Ordinance No. 2008-0064) implementing the new landscaping requirements is located at: http://planning.lacounty.gov/assets/upl/project/green_20080507-green-building-program-ordinances.pdf.

County Green Building Program Implementation Task Force

The purpose of the County of Los Angeles Green Building Program Implementation Task Force (Task Force) is to ~~provide~~ support ~~for~~ and promote the Green Building Program and to provide recommendations to the Regional Planning Commission and the County Board of Supervisors for the sustainability of the Program.

The Task Force goals include:

- Reviewing new versions of the approved third-party standards (green building standards and rating systems adopted by independent organizations) and Title 24 energy standards annually, or more often as needed, and make a recommendation as to whether to accept or deny the new requirements in their totality to the Regional Planning Commission and, upon appeal, to the Board of Supervisors;
- Incorporating new State of California Building Standards into the County's Program;
- Recommending updates or amendments to the Green Building and Drought-Tolerant Ordinances based upon new or modified requirements developed through additional research of the Task Force;
- Recommending updates or amendments to the Green Building Technical~~and Drought-Tolerant Landscaping Ordinances' Guidelines~~ Manual or other supporting technical documents;
- Reporting to the Board of Supervisors ~~by April 2010~~annually on the effectiveness of the Program, including landscaping guidelines ~~for residential projects~~ and provisions relating to exemptions ~~for warehouse and industrial manufacturing buildings~~;
- Providing assistance and helping disseminate information to the public and County employees regarding the ordinances; and
- Facilitating information-sharing among staff to create a stronger interest and commitment to sustainable development.

The ~~Chief Executive Office will chair the~~ Task Force, which ~~on a monthly basis and~~ coordinates implementation of the ~~program's~~ Program's goals~~. The Task Force shall~~, consists of a maximum 20 persons, including~~consisting of~~ County staff and stakeholders from building-related professional organizations and members of the public. The Task Force ~~will~~ chairs committees and creates public advisory groups that include relevant ~~external~~ stakeholders who may assist in promoting regional collaboration and provide professional and technical advice to the Task Force.

For more information on the Green Building Program:

Los Angeles County
Department of Regional Planning
320 W. Temple Street 13th Floor
Los Angeles, CA 90012
(213) 974-6411
Contact: zoningldcc@planning.lacounty.gov
Website: http://planning.lacounty.gov/spGreenBuildingProgram.htm

Los Angeles County
Department of Public Works
900 S. Fremont Avenue
Alhambra, CA 91803
(626)458-3173—Building & Energy Efficiency
(626) 458-3551—Construction Recycling
Contact: http://dpw.lacounty.gov/bsd/gb/index.cfm?p=contact_us

Websites: http://dpw.lacounty.gov/bsd/gb/ and http://dpw.lacounty.gov/epd

Definitions

The following definitions relate to the Drought Tolerant Landscaping and Green Building Ordinances:

"Agricultural accessory structure" ~~shall mean~~ a structure used to shelter animals or agricultural equipment, hay, feed, and/or other agricultural supplies. Examples include a barn, a greenhouse, a coop, a corral, and a pen.

"Build It Green™" ~~is~~ a non-profit organization whose mission is to promote healthy, energy and resource-efficient residential building practices in California.

"California energy efficiency standards" ~~are~~ the energy efficiency standards for residential and non-residential buildings established in Title 24, Part 6 (California Energy Code) of the California Code of Regulations~~, as~~. ~~these~~ These standards may be updated from time to time.

"County green building standards" ~~are~~ the minimum green building development requirements for all projects in the unincorporated areas of the County, as set forth in Sections 22.52.2130.C.1 through 22.52.2130.C.5 of the Los Angeles County Zoning Code.

"Drought-tolerant plant" - a native or non-native plant that requires minimal use of water and is appropriate to the region's climate and the nature of a project's use.
~~"CGB" means California Green Builder, a green building rating system for residential construction developed by the California Building Industry Association.~~

"Drought-tolerant plant list" ~~shall mean~~ a list of native and non-native plant species, approved by the Director and maintained by the Department, ~~which list is~~ organized by ecological zones including plants appropriate for use in landscaped areas within all projects.

"Ecological zone" - a geographic area with a definable combination of climate, relief, altitude, edaphic conditions where plants are indigenous or otherwise appropriate.

"First-time tenant improvement" ~~is~~ the initial improvement of the interior of a building or portion thereof, where the work requires a building, electrical, plumbing, and/or mechanical permit.

~~"GPR" means Green Point Rated™, a green building rating system for residential construction, developed and administered by Build It Green™.~~

"Green ~~building~~ Building ~~technical~~ Technical ~~manual~~Manual" ~~is~~ a manual prepared by the Department that includes the most recent third-party standards and rating systems accepted by the ~~commission~~ Regional Planning Commission for inclusion in the manual, as required by Section 22.52.2130.E. ~~, as well as~~ It also includes other pertinent information~~,~~ to assist

applicants ~~to~~ in complying with the requirements of ~~this Part 20. The green building technical manual includes~~the Drought-Tolerant Landscaping and Green Building Ordinances, such as the drought-tolerant plant list.

"Green Point Rated (GPR) - a green building rating system for residential construction, developed and administered by Build It Green™.

"Hydrozone" - a portion of a landscaped area that has plants with similar water and sun needs that is served by an irrigation valve or set of valves operating on the same schedule.

"Landscaped area" ~~shall mean.~~ the cumulative landscaped area of a lot or parcel of land~~, but shall~~ not ~~include~~ including the area in which any tree required by the Green Building Ordinance~~this Part 20~~ or any mature tree is situated. For single-family residences, the landscaped area ~~shall be~~is any area measured from the front property line to the front of the residence.

" Leadership in Energy and Environmental Design™ (LEED™)" ~~shall mean.~~ ~~Leadership in Energy and Environmental Design Green Building Rating System™,~~ an independent certification system of green building point categories and guidelines established by the United States Green Building Council as a means to verify the sustainable qualities of differing building types. LEED™ certification has four ratings from lowest to highest, respectively, in terms of sustainable qualities: certified, silver, gold, and platinum.

"LEED™ accredited professional" ~~shall mean.~~ an accredited professional from the building industry with a demonstrated knowledge and understanding of green building practices and principles, as well as a familiarity with LEED™ requirements, resources, and processes, all as described by LEED™.

"Lodging house" ~~shall mean.~~ any building or portion thereof containing five or fewer guest rooms designed, used, intended to be used, or hired out to guests for purposes of lodging.

"Mature tree" ~~shall mean.~~ any tree rooted on a lot or parcel of land, the trunk of which is at least six inches in diameter, measured four and one-half feet above the mean natural grade.

"Project" ~~shall mean.~~ the construction of any building, as defined in Title 22, or first-time tenant improvement, ~~but shall exclude~~ excluding the remodel or addition to an existing building. If a site contains one or more separate buildings, each separate building shall comply. ~~with this Title 20.~~

"Public recreational lawn" - an area planted with turf or other mowed ground cover that is maintained for recreation or enjoyment by the public, including athletic fields that are available for use by the public or membership associations.

"Registered historic site" ~~shall mean.~~ a property listed on any federal, state, or county register related to historic designation or status, including, but not limited to, the National Register of Historic Places, California Register of Historical Resources, California Historical Landmarks, and State Points of Historical Interest.

"Smart irrigation controller" ~~is -~~ a watering device that uses sensors and weather information to automatically adjust watering times and frequency in response to weather changes.

"Third-party standards and rating systems" ~~are -~~ the ~~three~~ two independent green building standards and rating systems, ~~CGB,~~ GreenPoint Rater™~~,~~ and LEED™, ~~as those standards and rating systems~~which may be updated from time to time.

"Total landscaped area" - the cumulative landscaped area of a lot or parcel of land, or portion thereof as determined by the Director, not including the area in which any tree required by Part 20 of Section 22.52 or any mature tree on the site is situated. For single-family residences, the total landscaped area shall be any area measured from the front property line to the front of the residence.

"Turf" - grass maintained by mowing and watering.

"United States Green Building Council (USGBC)" ~~is -~~ a non-profit organization whose mission is to~~-~~transform the way buildings and communities are designed, built and operated, enabling an environmentally and socially responsible, healthy, and prosperous environment that improves the quality of life.~~promote the development of buildings and structures that are environmentally responsible, profitable, and healthy places to live and work~~.

COUNTY GREEN BUILDING STANDARDS

County of Los Angeles Green Building Standards

The Program

To help our communities in the County face ecological challenges of today and tomorrow, we need to change the way we build and maintain buildings. "Building Green" will reduce pollutants, create healthier indoor environments, reduce utility bills, support the "green economy," and reduce the County's carbon footprint. The County Green Building Standards, which are part of the Green Building Ordinance, seek to meet these goals by reducing the need for energy within buildings, ensuring that construction waste is diverted from landfills, providing guidelines for indoor and outdoor water conservation, and encouraging the planting of new trees. The standards are tiered, to require that large scale projects, with larger negative environmental impacts, are responsible for incorporating more green building elements into their project. The County Green Building Standards pave the way for more environmentally friendly development countywide.

The program contains four elements:

1. Energy Conservation
2. Water Conservation
3. Resource Conservation
4. Tree Planting

Effective January 1, 2009 (and April 1, 2009 for certain residential projects), the following County Green Building Standards, as referenced in Parts 20 and 21 of Chapter 22.52 of Title 22 of the County Code, shall apply to all new development projects and first-time improvements on existing projects over 10,000 square feet (with exemptions under certain circumstances, see below):

The following is a generalized summary of the requirements, but. for For specific, authoritative details of the requirements and how it they applyies to a certain project, please refer to the Green Building and Drought-Tolerant Landscaping Ordinances contained in Parts 20 and 21 of Chapter 22.52 of Title 22 of the County Code. The following standards may not be required for certain projects in all instances. , pPlease refer to the Code for applicability and exemptions.

Residential and non-residential construction

- Buildings shall be designed to exceed the 2005 State of California Energy Efficiency Standards, Title 24, Part 6, by a minimum of 15%.
- Landscaped and irrigated areas shall use "smart" irrigation controllers, which include moisture-sensitive irrigation technologies or high efficiency irrigation systems.
- 75% of the total landscaped areas shall use drought-tolerant plant species selected from the County Drought-Tolerant plant Plant listList.

Residential only

- For single family units and multi-family projects with four or fewer units:
  - A minimum of two 15-gallon trees shall be planted and maintained, at least one of which shall be planted in the front yard and at least one of which shall be selected from the County Drought-tolerant ~~approved p~~Plant ~~list~~List.
  - At least 50% of non-hazardous construction/~~-~~demolition debris by weight shall be recycled, reused or diverted.
- For multi-family residential projects with five or more units:
  - A minimum of one 15-gallon tree shall be planted and maintained for every 5,000 square feet of lot area, and shall be selected from the County Drought-~~t~~Tolerant ~~approved p~~Plant ~~list~~List.
  - High-efficiency toilets shall be installed.
  - At least 65% of non-hazardous construction/~~-~~demolition debris by weight shall be recycled, reused or diverted.

Non-Residential only

- A minimum of one 15-gallon tree~~s~~ shall be provided and maintained for every 10,000 square feet of lot area, and at least 65% of the planted trees shall be selected from the County Drought-Tolerant ~~plant~~ Plant ~~list~~List.
- For buildings with less than 10,000 square feet of floor area:
  - At least 50% of non-hazardous construction/~~-~~demolition debris by weight shall be recycled, reused or diverted.
- For buildings containing 10,000 square feet or more of floor area:
  - High-efficiency toilets shall be installed.
  - At least 65% of non-hazardous construction/~~-~~demolition debris by weight shall be recycled, reused or diverted.

Applicability

Effective January 1, 2009, this ordinance applies to all new development projects, *except*:

- Those with building permits that expired due to delays because of third~~-~~-party litigation over approval of the projects, except if major changes to the scope of building permits as a result of litigation would be necessary.
- Single family residences prior to April 1, 2009.

Effective April 1, 2009, this ordinance applies to:

- New single family residences created by a parcel map with four or fewer lots.
- New single family residence to be constructed on a legal lot.

For a project involving a subdivision for single family residences for which a final map is ~~to be~~ approved after January 1, 2009, the total number of single-family residences noted on the

originally approved map (regardless of date of filing) will be the number counted in determining appropriate green building standards.

If a project is split between two or more use types (e.g., mixed use), the use that requires more stringent standards will have those standards applied to the entire project.

Exemptions

The following land use types are exempted from the County Green Building Standards:

- Projects with completed building permits filed with Public Works prior to January 1, 2009 (for residential projects with four or fewer units, prior to April 1, 2009).
- Agricultural accessory buildings.
- Registered historic sites.
- First-time tenant improvements with gross floor areas under 10,000 square feet.
- Warehouse/distribution, refrigerated warehouses, industrial/manufacturing are exempt from the energy conservation and third party standards component of the ordinance (offices used within these land uses still must comply with the all of the requirements).

GREEN BUILDING REQUIREMENTS FLOWCHART HERE

THIRD PARTY SYSTEMS ~~AND CHECKLISTS~~

Third Party Certification Systems and Checklists

Third-party green building programs are systems that have been developed by non-jurisdictional and often non-profit organizations with the mission of promoting the construction of environmentally responsible, energy- and resource-efficient buildings. Third-party organizations develop~~,~~ and manage green building standards, guidelines, checklists, and/or rating and certification systems.

Each of the different programs addresses similar elements of a building's construction: energy efficiency, water efficiency, indoor air quality, resource protection and site design. The differences in the programs are:

- There are national programs and statewide programs;
- There are programs that have been developed solely for the construction of residential buildings and programs that have been developed for the construction of both residential and non-residential buildings;
- Some programs administer standards and guidelines in the form of checklists that comprise a number of building measures that are considered green or incorporate sustainable building techniques, with each measure achieving a given number of points. To be eligible for certification, the building must achieve all of the prerequisites and attain a minimum number of points from the checklist options. Another type of program includes a list of performance-based requirements, all of which must be achieved in order for the building to be eligible for certification. In both types of systems, the project may be rated by a third-party to verify that all proposed green building measures have been achieved during the construction process for certification; and,
- The programs vary in their rigor and levels of required green building measures that must be met to be eligible for and attain certification. ~~For example, LEED has three certification levels, and California Green Builder has only one level.~~

~~Examples of national and state-oriented~~The green building programs that are recognized and accepted by the County of Los Angeles ~~include~~ are: (1) the national Leadership in Energy and Environmental Design (LEED) program developed and administered by the US Green Building Council~~,~~; ~~—~~ and, (2) the California-specific GreenPoint Rated for residential construction developed by Build It Green. Previously, ~~and~~ the California-specific California Green Builder for residential construction, developed by the California Building Industry Association, was included in this Manual. However, as of January 2011, the program has been dissolved and references to it within this document have been removed.

Effective **January 1, 2010**, certain land use types shall implement and incorporate these third-party standards in addition to the County Green Building Standards in their building design and construction:

Project Description	**Building Permit Application Filed on or after January 1, 2010**
Residential projects with < 5 dwelling units	County Green Building Standards
Residential projects with ≥ 5 dwelling units	County Green Building Standards & GPR *or* LEED Certified or Equivalent as determined by DPW
Hotels/motels, lodging houses, non-residential, and mixed-use buildings, with a gross floor area of < 10,000 square feet	County Green Building Standards
Hotels/motels, lodging houses, non-residential, and mixed-use buildings, and first-time tenant improvements, with a gross floor area of ≥ 10,000 square feet and < 25,000	County Green Building Standards & LEED Certified or Equivalent as determined by DPW
Hotels/motels, lodging houses, non-residential, and mixed-use buildings, and first-time tenant improvements, with a gross floor area of ≥ 25,000 square feet	County Green Building Standards & LEED Silver or Equivalent as determined by DPW
High-rise buildings > 75 feet in height	County Green Building Standards & LEED Silver or Equivalent as determined by DPW

These standards must be approved from use-defined subsets of menu options and/or use lists contained in the County Green Building Technical Manual, as reviewed and approved by the Green Building Task Force Committee on an annual basis.

Building design submitted to the Department of Public Works shall show all of the building elements to be used that is equivalent to those required for certification (obtaining certification itself is not required, but encouraged). Alternative green technologies that are the equivalent of ~~third~~ third-party standards must be approved by Public Works.

Please note that *certification* ~~itself~~ of a project with ~~any~~ either of the ~~three~~ recognized green building programs is *not required* by the County~~,~~; however, the County expects all buildings,

as specified in the table above, to incorporate a number of measures that are equivalent to the minimum required level (Certification or Silver for LEED) in the chosen program, for which certification is possible. The County recognizes there are additional expenses involved in applying for certification, so it leaves that aspect as an option. Project developers may have the discretion to incorporate standards equivalent to LEED Gold or LEED Platinum levels, or go above and beyond the baseline standards in any of the programs that are applicable to their projects, but all such measures must be approved by the Department of Public Works.

Leadership in Energy and Environmental Design (LEED)

United States Green Building Council

Introduction to LEED

The Leadership in Energy and Environmental Design (LEED) Green Building rating system was developed by the US Green Building Council as a national consensus standard for green buildings and serves as a benchmark for green development. The system is targeted to the 25% of top-performing buildings. LEED is the only system that addresses all types of new construction, including commercial, industrial, retail, schools, health care facilities, and homes. LEED for Neighborhood Development (LEED-ND) is being developed for subdivisions and planned communities. The LEED-ND Rating System integrates the principles of smart growth, urbanism, and green building, and provides independent, third-party verification that a development's location and design meet accepted high standards for environmentally responsible and sustainable development. LEED-ND is currently at the beginning stages of its pilot program, and is due to be launched in 2009.

The LEED system provides a menu of items for the builder to choose from. A project may earn certification from the USGBC if it meets certain prerequisites and performance benchmarks credits within each category:

- Sustainable Sites
- Water Efficiency
- Energy & and Atmosphere
- Materials & and Resources
- Indoor Environmental Quality
- Innovation and Design

Projects are rated by a LEED representative the Green Building Certification Institute and are awarded Certified, Silver, Gold, or
Platinum certification depending on the number of credits they achieve. To achieve certification and a LEED seal, the developer is required to register and pay for LEED certification from the USGBC. The USGBC website indicates their cost of certification to be between $3,000 to and $24,000, depending on project size. It is not clear the amount of tTime certification will add to a project's construction schedule, but USGBC offers expedited service for an additional fee of $10,000.

The following includes checklists for various types of development that can be used to achieve LEED certification or to meet green building standards that is equivalent to specified certification level, as required by the County beginning in 2010:

- LEED for New Construction, Version 2.2

High-performing commercial and institutional projects, high-rise residential buildings, government facilities, recreational facilities, manufacturing plants, and laboratories, but excluding schools

- LEED for Existing Buildings: Operations & Maintenance, Version 2.0
  Whole building systems, for all building types.
- LEED for Commercial Interiors, Version 2.0
  Tenant improvements in the commercial sector
- LEED for Core & Shell, Version 2.0
  Designed to be complimentary to Commercial Interiors, but address exterior issues of the building.
- LEED for Schools, Version 2007
  Designed for public and private K-12 schools, and can apply to early education, day care, and higher education facilities.
- LEED for Homes
  For high-performance residential homes.
- LEED for Neighborhood Development – Pilot
  For sustainable development of mixed-use neighborhoods and subdivisions, that preserves the environment while promoting New Urbanism concepts.

LEED Version 3

On April 27, 2009, USGBC launched LEED v3, also known as LEED 2009. LEED 2009 is not a "tear down and rebuild" of the LEED that exists in the market but rather a reorganization of the existing commercial and institutional LEED rating systems along with several key advancements. Learn more at http://www.usgbc.org/DisplayPage.aspx?CMSPageID=1971.

Regional Priority Credits

To provide incentive to address geographically specific environmental issues, USGBC regional councils and chapters have identified 6 credits per ZIP Code that are of particular importance to that specific area. Each regional priority credit is worth an additional 1 point, and a total of 4 regional priority points may be earned. Upon project registration, LEED-Online automatically determines a project's regional priority credits based on its zip code. If the project achieves more than 4 regional priority credits, the team can choose the credits for which these points will apply. The USGBC website also contains a searchable database of regional priority credits.

LEED Online

LEED Online is the tool LEED project teams use to manage the LEED registration and certification processes. The new version of LEED Online is designed to be faster, smarter and a better user experience. It is built to be scalable and more robust, both through improved design and a more intuitive user interface as well as through greater help capabilities, better communication between project teams and certifying bodies, and

upgrades that respond to the changes in the LEED 2009 rating system. LEED Online now offers more functionality and improved reliability.

Learn more about the functionality, training and support at: http://www.usgbc.org/DisplayPage.aspx?CMSPageID=1972.

Project Certification

To earn LEED certification, the applicant project must satisfy all the prerequisites and qualify for a minimum number of points to attain the established project ratings as listed below. Having satisfied the basic prerequisites of the program, applicant projects are then rated according to their degree of compliance within the rating system. Each rating system includes specific information regarding certification requirements. For more information on the LEED certification process including LEED-Online, Credit Interpretation Requests and Rulings, Appeals, and Fees please see the LEED Reference Guide for Green Building Design and Construction, 2009 Edition and visit www.usgbc.org or www.gbci.org.

LEED Rating Systems and Checklists

The following list includes summaries from www.usgbc.org and links to rating systems and checklists for various types of development that can be used to achieve LEED certification or to meet green building standards equivalent to a specified certification level, as required by the County since 2010. For assistance in choosing the most appropriate LEED rating system, please e-mail leedinfo@usgbc.org.

Please note that although LEED Major Renovation Systems and Checklists are included below LA County does not currently require green building standards for renovations or existing buildings.

- *New Construction and Major Renovations - 2009*

The LEED for New Construction Rating System is designed to guide and distinguish high-performance commercial and institutional projects, including office buildings, high-rise residential buildings, government buildings, recreational facilities, manufacturing plants and laboratories.

The New Construction and Major Renovations rating system is available at: http://www.usgbc.org/ShowFile.aspx?DocumentID=5546.

The New Construction and Major Renovations checklist is available at: http://www.usgbc.org/DisplayPage.aspx?CMSPageID=1971.

- *Existing Buildings: Operations and Maintenance - 2009*

The LEED for Existing Buildings Rating System helps building owners and operators measure operations, improvements and maintenance on a consistent scale, with the goal of maximizing operational efficiency while minimizing environmental impacts. LEED for Existing

Buildings addresses whole-building cleaning and maintenance issues (including chemical use), recycling programs, exterior maintenance programs, and systems upgrades. It can be applied both to existing buildings seeking LEED certification for the first time and to projects previously certified under LEED for New Construction, Schools, or Core & Shell.

The Existing Buildings rating system is available at:
http://www.usgbc.org/ShowFile.aspx?DocumentID=5545.

The Existing Buildings checklist is available at:
http://www.usgbc.org/DisplayPage.aspx?CMSPageID=1971.

- *Commercial Interiors - 2009*

LEED for Commercial Interiors is the green benchmark for the tenant improvement market. It is the recognized system for certifying high-performance green interiors that are healthy, productive places to work; are less costly to operate and maintain; and have a reduced environmental footprint. LEED for Commercial Interiors gives the power to make sustainable choices to tenants and designers, who do not always have control over whole building operations. LEED CI is available to all tenant improvement projects regardless if the core building is LEED certified or not.

The Commercial Interiors rating system is available at:
http://www.usgbc.org/ShowFile.aspx?DocumentID=5543.

The Commercial Interiors checklist is available at:
http://www.usgbc.org/DisplayPage.aspx?CMSPageID=1971.

- *Core and Shell Development - 2009*

LEED for Core & Shell is a green building rating system for designers, builders, developers and new building owners who want to address sustainable design for new core and shell construction. Core and shell covers base building elements such as structure, envelope and the HVAC system. LEED for Core & Shell is designed to be complementary to the LEED for Commercial Interiors rating system, as both rating systems establish green building criteria for developers, owners and tenants. The LEED for Core & Shell Rating System acknowledges the limitations of developers in a speculatively developed building and encourages the implementation of green design and construction practices in areas over which the developer has control. Developers can often implement green strategies that indirectly benefit future tenants. Conversely, developers can inadvertently implement strategies that prohibit tenants from executing green fit-outs. LEED for Core & Shell works to set up a synergistic relationship, which allows future tenants to capitalize on green strategies implemented by the developer.

The Core and Shell rating system is available at:
http://www.usgbc.org/ShowFile.aspx?DocumentID=5544.

The Core and Shell checklist is available at:
http://www.usgbc.org/DisplayPage.aspx?CMSPageID=1971.

- *Schools New Construction and Major Renovations - 2009*

The LEED for Schools Rating System recognizes the unique nature of the design and construction of K-12 schools. Based on the LEED for New Construction rating system, it addresses issues such as classroom acoustics, master planning, mold prevention and environmental site assessment. By addressing the uniqueness of school spaces and children's health issues, LEED for Schools provides a unique, comprehensive tool for schools that wish to build green, with measurable results. LEED for Schools is the recognized third-party standard for high-performance schools that are healthy for students, comfortable for teachers, and cost-effective.

The Schools rating system is available at:
http://www.usgbc.org/ShowFile.aspx?DocumentID=5547.

The Schools checklist is available at:
http://www.usgbc.org/DisplayPage.aspx?CMSPageID=1971.

- *LEED for Homes - Version 2*

A LEED-certified home is designed and constructed in accordance with the rigorous guidelines of the LEED for Homes green building certification program. LEED for Homes is a consensus-developed, third party-verified, voluntary rating system which promotes the design and construction of high-performance green homes.

USGBC has issued a guidance for mid-rise residential project between 4 and 6 stories.

Additional information on project eligibility, registration, certification and pricing is available at:
http://www.usgbc.org/DisplayPage.aspx?CMSPageID=147.

The Homes rating system is available at:
http://www.usgbc.org/ShowFile.aspx?DocumentID=3638.

The Homes checklist is available at:
http://www.usgbc.org/DisplayPage.aspx?CMSPageID=147.

- *LEED for Neighborhood Development (ND) – 2009*

LEED-ND has been included here for reference only. LA County does not currently require green building standards for new developments.

The LEED for Neighborhood Development Rating System integrates the principles of smart growth, urbanism and green building into the first national system for neighborhood design. LEED certification provides independent, third-party verification that a development's location

and design meet accepted high levels of environmentally responsible, sustainable development. LEED for Neighborhood Development is a collaboration among USGBC, Congress for the New Urbanism, and the Natural Resources Defense Council.

Additional information on project certification, regional priority credits and the pilot program is available at: http://www.usgbc.org/DisplayPage.aspx?CMSPageID=148.

The ND rating system is available at: http://www.usgbc.org/ShowFile.aspx?DocumentID=8880.

The ND checklist is available at: http://www.usgbc.org/DisplayPage.aspx?CMSPageID=148.

Rating System Addenda

Addenda to the LEED 2009 rating systems and reference guides are published on a quarterly basis. The first release of the quarterly addenda was in April 2010. Quarterly addenda incorporate changes and improvements to LEED 2009 resources, including rating systems and reference guides. Addenda are subject to USGBC committee review. USGBC stopped publishing errata for LEED v2 rating systems with the launch of LEED 2009.

The addenda are available at: http://www.usgbc.org/DisplayPage.aspx?CMSPageID=2200#BO+M.

Frequently Asked Questions

The LEED Frequently Asked Questions (FAQs) contain general information, reference guides, as well as details regarding certification and LEED online.

The FAQs are available at: http://www.usgbc.org/DisplayPage.aspx?CMSPageID=1819.

GreenPoint Rated™

Build It Green

Introduction

The GreenPoint Rated (GPR) system is a California-specific program managed by Build It GreenTM (BIG), a non-profit California- based organization. The system includes programs for New and Existing single family and multifamily residential buildings. GPR is accompanied by a comprehensive GreenPoint Rater Manual, which clearly identifies the criteria and verification for each measureutilizes guidelines for construction and remodel of single family and multi-family homes. The program originated from the 2000 Alameda County Green Building Guidelines, and was updated in 2006 and released as a third-party rating system spring ofin 2007. The GRP criteria guidelines were developed and are updated every three years through a collaborative multi-stakeholder process that has includeds State agencies, such as the California Integrated Waste Management Board, State Energy Commission, Department of Water Resources, and the Air Resources Board, local governments in Northern and Southern California, energy and water utility companies, product suppliers and major production builders.

The GreenPoint Rated program provides a menu of items for from which the builder to can choose from, with a minimum of points required from five different categories:

- Community,
- Energy,
- Indoor Air Quality and Health,
- Resources and
- Water.

The menu items are tailored to meet the California climate, building code, and other regulatory conditions, such as Title 24 energy efficiency standards. Prerequisites for new homesall development using this system include exceeding Title 24 standards by 15% and requiring a minimum 50% of waste diversion.

Homes New homes are rated by third-party trained and certified GreenPoint Raters, and a rated home achieving 50 points may be certified as a Green Rated Home. A significant component of system's criteriathese guidelines, particularly for subdivisions, is the Community category, which promotes healthy community development, including walkable and safe neighborhoods.

These guidelines also begin toGPR addresses Low Impact Development standards and incorporate best management practices for managing stormwater runoff.

Build It GreenTM BIG also has available the "Ask An Expert" telephone hotline. This is set up to provides technical assistance and answers to green building questions on demand, and could be madeis available to applicants for development projects. The program is also

~~consistent with other residential green building initiatives, such as LEED for Homes and Energy Star. For example, compliance with the guidelines of the California Friendly Home Program of the Southern California Metropolitan Water District, will earn the builder points in the GreenPoint Rated rating system. It is important to note that Build It Green™ has also~~ BIG established an agreement with the LEED for Homes provider in California (Davis Energy Group)~~,~~ to cross-train raters so that a home that is to be rated for LEED certification may also be rated for GreenPoint Rated by the same rater. The project developer will be required to pay all costs related to third-party verification. Rater costs vary depending upon quantity, scale (single homes or developments) and the number of green features within the project. Fees for conducting a home rating are negotiated directly between the GreenPoint Rater and client. While every project is unique, surveys show that basic rating fees (excluding consultation and travel) typically range from $700-$1500 for a single-family home or $3750-$6000 for a 30-unit subdivision or multifamily project.
~~GPR cost estimates for a single family home range from $500-$1,500, and for a multifamily building $3,300-$19,000.~~

New and Existing Homes

The following list includes summaries from www.builditgreen.org and links to checklists, guidelines, and manuals for single and multi-family residential development that can be used to achieve GPR certification or to meet green building standards equivalent to certification, as required by the County since 2010.

- *GreenPoint Rated New Home*

GreenPoint Rated New Home is a recognizable and independent seal of approval for green homes.~~s that allows them to stand out from the crowd.~~ It reassures home buyers that a home has been 3rd party verified to meet the unique array of green practices chosen by the builder or owner from the GreenPoint Rated checklist. By the builder implementing these green practices, a home is designed to offer improvements in indoor air quality, energy and water efficiency, and resource conservation.

The GreenPoint Rated New Home Homeowner Brochure is available at:
http://www.builditgreen.org/attachments/contentmanagers/178/greenpoint.consumer.pdf.

The GreenPoint Rated New Home Builder Brochure is available at:
http://www.builditgreen.org/attachments/contentmanagers/178/greenpoint.builder.pdf.

- *GreenPoint Rated Existing Home*

According to BIG, 70% of the existing home stock in California was built prior to 1980 and the adoption of the California Title 24 energy code, making the need to upgrade existing homes enormous.

Launched in the spring of 2008, this point-based system is available for existing residential single family and multifamily buildings of all vintages. Points can be accumulated through “as is” qualifying measures and those qualified through improvements. Projects that undertake a

rating will also be reviewed for basic building integrity and life safety issues. The system has two accessible entry points for recognizing green improvements. For projects doing a limited or partial remodel, upgrades or renovations, the Elements label, requiring 25 minimum points, could be most appropriate. For projects undertaking major remodels, upgrades or renovations, the Whole Building label, requiring a 50 point minimum may be the best option. The rating system incorporates best practices for home energy performance evaluation and complements various state and local green retrofit standards and programs.

- *Single Family*

GreenPoint Rated Existing Home is the first comprehensive green building rating system for existing single family homes of its kind in the nation and is available for homes of all vintages; existing or undergoing remodeling.

The Introduction to the GreenPoint Rated Existing Home Rating System is available at: http://www.builditgreen.org/attachments/files/365/Introduction%20to%20GreenPoint%20Rated%20Existing%20Home%20Rating.5.19.09.pdf.

The GreenPoint Rated Existing Home Backgrounder is available at: http://www.builditgreen.org/attachments/contentmanagers/188/GPR%20EH%20FAQ.V2.pdf.

The GreenPoint Rated Existing Home Brochure is available at: http://www.builditgreen.org/attachments/contentmanagers/188/greenpoint.existing.pdf.

- *Multifamily*

This point-based system is available for existing residential multifamily buildings of all vintages. It uses the same principals for the single family program, allowing credit for “as is” components and incorporating an entry point for smaller and larger renovations. The rating system is designed to complement various state and local green retrofit programs that affordable housing developer will likely utilize to undertake property rehabilitation.

Details on the multifamily program requirements are available at: http://builditgreen.org/EHMF/Program-Requirements.

GreenPoint Rated Checklists

The adoption of California Green Building Standards Code 2010 (CALGreen) for low-rise residential includes a list of mandatory measures which became effective January 1, 2011. The GreenPoint Rated Checklist has been modified and now incorporates these code required measures to facilitate compliance with the code and to allow for verification of the code by GreenPoint Raters upon jurisdictional approval.

The following GreenPoint Rated Checklists are available for free download at:

http://builditgreen.org/guidelines--checklists:

- *New Home – Single Family*

GreenPoint Rated Single Family Checklist Version 4.2 (for projects permitted under 2008 Title 24 Energy Efficient Standards)

GreenPoint Rated Single Family Checklist Version 3.7 (for projects permitted under 2005 Title 24 Energy Efficient Standards)

- *New Home – Multifamily*

GreenPoint Rated Multi Family Checklist Version 1.9/2.2 (for projects permitted under 2005 or 2008 Title 24 Energy Efficient Standards)

- *Existing Home – Single Family*

GreenPoint Rated Existing Home Checklist Version 1.2

- *Existing Home – Multifamily*

GreenPoint Rated Existing Home Checklist Version 1

GreenPoint Rated Manuals

The Rating Manuals are essential companion documents for fully understanding the requirements of the GreenPoint Rated Checklist measures, and are an invaluable resource for anyone working on a GreenPoint Rated Project. These are the handbooks Raters use to interpret and implement GreenPoint Ratings, and include the specific descriptions, applications, requirements, intent, and verifications for each of the GreenPoint Rated Measures.

The Manuals are available for purchase in electronic format only (PDF). To place an order, download the order form and submit the completed form by email to: bookkeeper@builditgreen.org or by fax 510-740-7233.

A preview of the Single Family New Home Rating Manual (Version 4.0, January 2010) is available at: http://www.builditgreen.org/_files/Admin/Collateral/SF_Manual_preview.pdf.

A preview of the Single Family Existing Home Rating Manual (Version 1.4, June 2009) is available at: http://www.builditgreen.org/_files/Admin/Collateral/EH_Manual_preview.pdf.

A preview of the Multi Family Rating Manual (Version 1.8 and 2.0, March 2010) is available at: http://www.builditgreen.org/_files/Admin/Collateral/MF_Manual_preview.pdf.

Green Building Guidelines

The Green Building Guidelines are a comprehensive resource of best practices for green building. Developed with multi-stakeholder input, these guidelines offer recommended practices for improving indoor air quality, increasing energy and water efficiency, conserving natural resources, and planning for livable and vibrant communities.

The guidelines are available for purchase in electronic (PDF) or printed book format. To place an order, download the order form and submit the completed form by email to bookkeeper@builditgreen.org or by fax 510-740-7233.

A preview of the Single Family New Home Construction Guidelines (2009-11 Version) is available at: http://builditgreen.org/_files/Admin/Collateral/SFguide_preview.pdf.

A preview of the Single Family Home Remodeling Guidelines (2007 Version) is available at: http://builditgreen.org/_files/Admin/Collateral/RMguide_preview.pdf.

A preview of the Multi Family New Home Construction Guidelines (2009-11 Version) is available at: http://builditgreen.org/_files/Admin/Collateral/MFguide_preview.pdf.

Information on GPR Rating and Raters

Single-family residential, multi-family residential and single family existing home remodeling projects are eligible for certification under the GreenPoint Rated program.

The GreenPoint Rating process is a non-invasive physical examination of building systems, structures, materials and components to assess energy and water efficiency, indoor air quality, resource efficiency of materials and construction methods, and construction quality. The rating process is not intended to be technically exhaustive and should not be relied upon to identify potential construction defects.

The points in GreenPoint Rated correspond to recommended green building measures in the GreenPoint Rater Manual. Point values are assigned based on their benefits to the homeowner and the environment and reflect construction practices that exceed California's building and energy code requirements. Any eligible new project that achieves the minimum of 50 total points and meets the category-specific point thresholds earns the right to bear the GreenPoint Rated label. Builders that exceed this minimum are rewarded by a higher grade on their projects.

Ratings are performed by Certified GreenPoint Raters, independent professionals who are trained and certified by Build It Green. They are prepared to team up with the builder to maximize home performance and green features and compile supporting documentation for the rating process. The rater submits verification results on the client's behalf to Build It Green.

GreenPoint Rated Existing Home has recently been modified to include a contractor delivery model with a rigorous quality assurance protocol. This policy was added to gain accessibility to the program while maintaining a credible standard through enhanced quality assurance.

The Certified Green Professionals Directory includes information on Build It Green Certified Professionals. The Directory is available at: http://builditgreen.org/directorylist.

LANDSCAPING

Drought Tolerant Landscaping

Purpose

The purpose of the Drought Tolerant Landscaping Ordinance is to:

- Establish minimum standards for design and installation of landscaping using drought-tolerant and native plants that require minimal water~~,~~ and are appropriate to the project's local climate and ~~to~~ the nature of the project's use~~.~~; and,
- Conserve water resources.

Applicability

Effective January 1, 2009, this ordinance applies to:

- All new projects with complete building permits to be filed on or after January 1, 2009 with the exception of single family residences.

Effective April 1, 2009, this ordinance applies to:

- All new single family residences created by a parcel map with four or fewer lots or single family residences on legal lots with complete building permits ~~to be~~ filed on or after April 1, 2009.

Exemptions

This ordinance does not apply to:

- Construction on a lot with an existing single family residence that does not involve replacing the entire residence~~.~~;
- Registered historical sites;
- Public recreational lawns;
- New parks and renovations to existing parks;
- Dedicated space for edible plants (e.g. orchards, vegetable gardens);
- Manufactured cut and fill slopes over 3:1 based on building code, to be determined by the Department of Public Works on a case-by-case basis; and,
- Low Impact Development-related landscaping.

*The following is a generalized summary of the requirements~~, but f~~. F*or specific, authoritative details of the requirements and how *they~~it~~ ~~applies~~ apply to a certain project, please refer to the Green Building and Drought-Tolerant Landscaping Ordinances contained in Parts 20 and 21 of Chapter 22.52 of Title 22 of the County Code. The following standards may not be required for certain projects in all instances~~,~~. ~~please~~ Please refer to the Code for applicability and exemptions.*

Requirements

The County's drought-tolerant landscaping requirements, as referenced in Part 21 of Chapter 22.52 of Title 22 of the County Code, serve to reduce the amount of water needed for landscaped areas in all new projects countywide. The goal of the ordinance is to reduce the amount of landscaped area dedicated to turf and utilize that space for more water efficient plant species. All projects that include required landscaping must comply with the following requirements:

- Installation of a smart irrigation controller wherever permanent landscaping is proposed~~.~~;
- A minimum of 75% of the total landscaped area of the lot shall use drought-tolerant plants and trees selected from the County Drought-Tolerant ~~Approved~~ Plant List~~.~~;
- On single-family residential lots, 75% of the front yard ~~will be~~is required to use drought-tolerant plants~~. ;Drought~~ drought-tolerant landscaping in side and rear yards are strongly encouraged, though not required~~.)~~;
- Non-plant materials and trees required by Title 22 do not count in the 75% requirement~~.~~;
- A maximum of 25% of the total landscaped area may have turf grass planted in the front yard, with a maximum of 5,000 square feet of turf allowed for the entire lot;
- Strips of turf must be planted no less than five (5) feet wide~~. O~~, and, on single-family residential lots, the side and rear yards will be counted in the turf calculation~~.~~;
- Turf grass must be water efficient (see the County Drought-Tolerant ~~Approved~~ Plant List in the Green Building Technical Manual for appropriate species);
- Drought tolerant plants must be grouped in hydrozones according to similar water, cultural (soil, climate, sun, and light) and maintenance needs~~.~~; and,
- Landscape must also ~~confirm~~ conform to the Fire Department's requirements for fuel modifications and brush clearance.

Modification of Requirements

Modifications to the landscaping requirements may be granted if full compliance with the ordinance creates an unnecessary hardship based on physical constraints of the lot or if a large scale project requests flexibility to accommodate the design. Modifications to the landscaping requirements can be processed as a yard modification or can be considered along with a discretionary permit.

Site Plan Review

A Drought-Tolerant Landscaping site plan can also be used to show compliance with Green Building and Low Impact Development ordinances. The site plan should include:

- Outlined areas that are proposed to be landscaped;
- Calculations for drought tolerant plants, turf and trees; and,
- Discretionary projects may require a list of all proposed plant species, including drought-tolerant species, and other landscaping materials used for the project.

If filing concurrently with other permits or applications for other aspects of a development project, an applicant may instead submit an Exhibit A with a tentative map or a site plan used for other components of the project, which must include landscaping diagrams for compliance of this ordinance. Any projects that require discretionary review will require a full landscape plan.

No further approval from DRP is needed for changes to any site plan with landscaping diagrams as long as the total landscaping area percentages are maintained.

A recorded covenant will be required for acknowledgement by the property owner of the Drought-Tolerant Landscaping Ordinance.

For more information on the Drought Tolerant Landscaping Ordinance:

Los Angeles County
Department of Regional Planning
320 W. Temple Street 13th Floor
Los Angeles, CA 90012
(213) 974-6411
zoningldcc@planning.lacounty.gov
Website: http://planning.lacounty.gov/spGreenBuildingProgram.htm

DROUGHT TOLERANT LANDSCAPING REQUIREMENTS FLOWCHART HERE

Descriptions of County's Planting Zones[6]

Planting Zone 1: Santa Catalina Island

- The island, located about 22 miles south-southwest of Los Angeles, is 22 miles long and 8 miles across at its greatest width.
- Topography is generally rugged; the highest point, Mt. Orizaba, sits at 2,125 feet elevation.
- The island is largely natural apart from the city of Avalon and the much smaller settlement of Two Harbors.
- The climate is Mediterranean~~,~~ with wet, generally mild winters and warm, generally dry summers. Plants growing on the island can be affected by salty air off the Pacific Ocean.
- At Avalon, average daytime temperatures are ~~≈~~about 64–75 °F; average overnight lows are 49–64 °F.
- Average annual rainfall on the island is ~~≈~~about 14 inches
- The main vegetation types are maritime succulent scrub, coastal bluff scrub, chaparral, riparian scrub and woodlands, Island Ironwood forest, oak woodland, and Island Cherry woodland.

Planting Zone 2: Immediate Coast (Malibu to Long Beach)

- This planting zone is largely developed and has generally flat topography, with elevations close to sea level.
- The coast is south-facing from the Ventura County line to Santa Monica, becomes almost west-facing from there south to the Palos Verdes Peninsula, and then is predominantly south-facing from Rancho Palos Verdes to Long Beach.
- This zone has a Mediterranean climate with wet, generally mild winters and warm, generally dry summers.
- In addition to being subject to coastal fog, especially in May and June, vegetation in this Planting Zone can be affected by salty ocean air. The strong marine influence keeps temperatures moderate in both winter and summer compared with areas farther inland.
- At Malibu, average daytime temperatures are ~~≈~~about 62–71 °F; average overnight lows are 50–63 °F.
- Average annual rainfall is ~~≈~~about 13 inches.
- The primary natural vegetation types are coastal salt marsh, coastal dune, and coastal bluff scrub.

[6] Source: Robb Hamilton, Biologist, Sigma Engineering, Inc., Bellflower, California.

Planting Zone 3: Los Angeles Basin & San Fernando Valley

- Most of this extensive zone is intensely developed, with topography that is generally flat to mildly sloped, although there are also many areas of low hills and valleys and some limited expanses of natural open space.
- Elevations range from near sea level to ~about 1500 feet at the base of the San Gabriel and Verdugo Mountains.
- This zone has a Mediterranean climate with wet, generally mild winters and warm, generally dry summers. Fog occurs primarily in low-lying areas near the coast, especially in May and June, but can occur throughout this zone.
- Near the coast, at Santa Monica, average daytime temperatures are ~about 62 – 71 °F; average overnight lows are 50–63 °F. In the downtown area, average daytime temperatures are ~about 68–85 °F; average overnight lows are 48–66 °F. Still farther inland, at Burbank, average daytime temperatures are ~about 67–90 °F; average overnight lows are 41–62 °F.
- Average annual rainfall is ~about 13 inches on the coast, ~about 15 inches downtown, and ~about 21 inches in the San Fernando Valley.
- The main natural vegetation types are coastal sage scrub, chaparral, grassland, riparian scrub and woodlands, oak woodlands, and walnut woodland.

Planting Zone 4: Santa Monica Mountains

- These coastal mountains, which are part of the extensive, east/west trending Transverse Ranges, reach only a maximum elevation of 3,111 feet at Sandstone Peak (which is actually a volcanic extrusion), but they are generally quite rugged, especially on the south side. Most of this Planting Zone remains in a natural state and is part of the Santa Monica Mountains National Recreation Area.
- The climate is Mediterranean, with wet, generally mild winters and warm, generally dry summers. Fog can occur throughout this zone, especially in May and June.
- Along the coast, at Malibu, average daytime temperatures are ~about 62–71 °F; average overnight lows are 50–63 °F. Inland, at Agoura Hills, average daytime temperatures are ~about 68–96 °F; average overnight lows are 38–58 °F.
- Average annual rainfall can be as low as ~about 12 inches near the coast and as high as ~about 25 inches at the upper elevations.
- The main natural vegetation types are coastal sage scrub, chaparral, grassland, riparian scrub and woodlands, oak woodland, and walnut woodland.

Planting Zone 5: San Gabriel Mountains & Foothills

- The San Gabriel Mountains run east and west, towering above Los Angeles.
- They reach maximum elevation of 10,064 feet at Mt. San Antonio, better known as Mt. Baldy, located along the San Bernardino County line. Planting Zone 5 also includes the Verdugo Mountains, a foothill range with elevations up to 3,126 feet.
- The lower-end elevations in this planting zone are closer to 1,000 feet.
- Most of this planting zone remains in a natural state and is part of the Angeles National Forest.

- The great range of elevations represented in this planting zone make it difficult to generalize about temperatures, but summer daytime temperatures are generally in the 80s or low 90s. In winter, snows routinely fall at elevations down to 5,000 feet elevation, exceptionally to 3,000 feet or even lower.
- Average annual precipitation can be as low as ≈about 10 inches on the back (north) side of the mountains, but most of the range receives much more precipitation—up to ≈about 34 inches on the highest peaks.
- The main natural vegetation types are coastal sage scrub, chaparral, oak woodlands, riparian scrub and woodlands, montane forests (coniferous, pine/oak, and riparian), pinyon-juniper woodland, and Joshua Tree woodland.

Planting Zone 6: Interior Western Transverse Mountains

- These east/west-trending interior hills and mountains, including parts of the Simi Hills, Santa Susannah Mountains, Topatopa Mountains, Tehachapi Mountains, and Sierra Pelona, rise from roughly 1,000 feet to a maximum elevation of 5,788 feet at Burnt Peak. This zone includes some large tracts of natural lands, some within the Los Padres National Forest, but this is also the fastest-growing part of Los Angeles County.
- In Santa Clarita, average daytime temperatures are ≈about 64–95 °F; average overnight lows are 36–55 °F. Farther inland, at Gorman, average daytime temperatures are ≈about 49–85 °F; average overnight lows are 37–63 °F. The latter area is located in the Tejon Pass, where high winds are routine.
- Average annual precipitation ranges from ≈about 7 inches on the desert slopes to ≈about 22 inches on the highest peaks. Much of the precipitation takes the form of snow at the higher elevations.
- The main natural vegetation types are grasslands, coastal sage scrub, Big agebrush scrub, Rubber Rabbitbrush scrub, chaparral, Holly-leaf Cherry woodland, oak woodlands, walnut woodlands, riparian scrub and woodlands, and Joshua Tree woodland. A great variety of oaks occur in this part of the county, including numerous hybrid combinations.

Planting Zone 7: Antelope Valley/West Mojave Desert

- Largely flat and uniformly dry, the desert portion of Los Angeles County is unlike the other six planting areas described previously.
- Lancaster, at the center of Planting Zone 7, sits at about 2,400 feet elevation, roughly 1,000 feet lower than the area's highest buttes. Average daytime temperatures are ≈about 57–95 °F; average overnight lows are 29–66 °F.
- Average annual precipitation in this planting zone ranges from ≈about 3–7 inches, most of it coming during the winter months.
- The main natural vegetation types are Creosote Bush scrub, Mojave Desert scrub, Rubber Rabbitbrush scrub, and Joshua Tree woodland.

INSERT PLANTING ZONES MAP **HERE**

INSERT NATIVE LANDSCAPING STANDARDS MAP HERE

INSERT AVERAGE ANNUAL TEMPERATURES MAP HERE

INSERT AVERAGE ANNUAL MAXIMUM TEMPERATURES MAP HERE

INSERT AVERAGE ANNUAL MINIMUM TEMPERATURES MAP HERE

INSERT PLANTING ZONES AVERAGE ANNUAL RAINFALL MAP HERE

List of Approved Drought-Tolerant Plants

County Drought-Tolerant ~~Approved~~ Plant List

The County's approved plant list has been drafted by the County biologist with input from the County Fire Department, Department of Public Works and Department of Parks and Recreation. The plants included are approved for use in their designated ecological zones and meet all of the required standards for drought-tolerance. The list is organized to allow for easy use and provide necessary information about the species. The plants are sorted by:

- *Ecological zone:* these zones have been identified by the County biologist and their unique climactic and regional characteristics have been considered. Before choosing plants, it is important to identify the ecological zone the project falls within to ensure that all of the plants chosen are appropriate for that region.

- *Native or non-native*: the list identifies whether the plant is native to the Los Angeles area or whether it is simply climactically appropriate for use here.

- *Plant type and flower color*: this information has been provided to aid in finding plants that fit into a specific design or style.

- *Water use:* where provided, this information identifies the recommended watering necessary for the plant to grow and thrive.

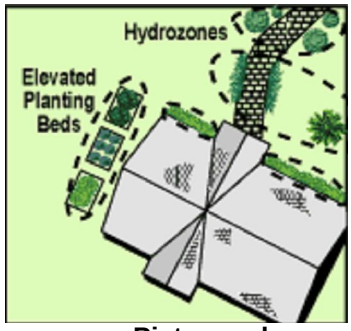
It is important to note that plants similar to those identified on this list that meet similar requirements of drought-tolerance may be approved for use. The list serves as a guide for currently approved plants, but others may be submitted for approval for use in the required 75% of landscaped area to be planted with drought-tolerant species.

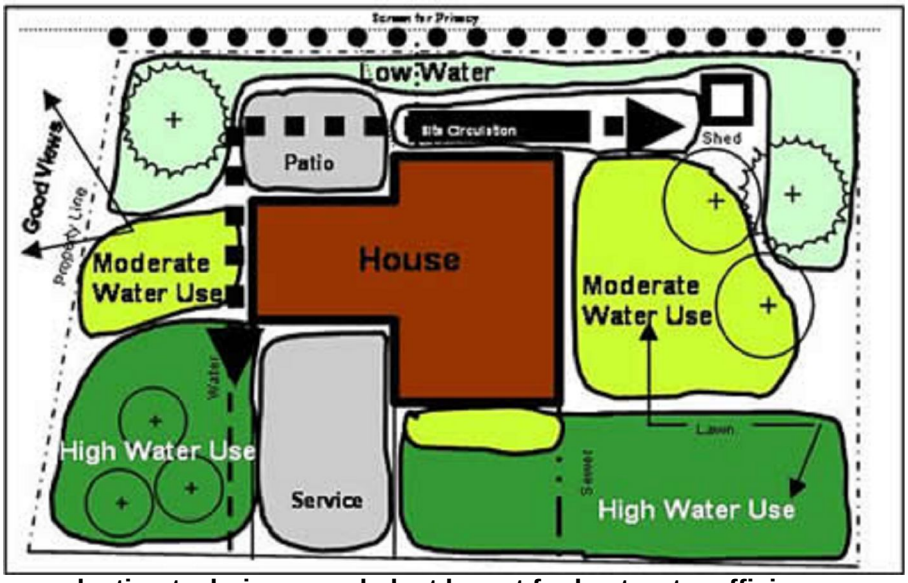
~~INSERT PLANT LISTS HERE~~

The current plant list, approved in 2008, is available at:
http://planning.lacounty.gov/assets/upl/project/green_drought-tolerant-plants.pdf.

Hydrozoning

The County of Los Angeles Drought-Tolerant Ordinance (Part 21 of Chapter 22.52) defines a hydrozone as "a portion of a landscaped area that has plants with similar water and sun needs and that are served by an irrigation valve or set of valves operating on the same schedule." Under the County's Drought-Tolerant Landscaping requirements, plants in landscaped areas will be grouped in hydrozones in accordance with their respective water, cultural (soil, climate, sun, and light), and maintenance requirements.





Pictures show proper planting techniques and plant layout for best water efficiency.

~~INTRODUCTION~~

The word "hydrozone" is used to describe the grouping of plants that have similar water requirements. Hydrozoning is a key component of a water-efficient irrigation system and landscape. Effective hydrozoning requires an understanding of plants, the rate in which water moves into and through the soil (infiltration rate), soil type and texture, landscape design, irrigation, drainage, slope, sun exposure, and weather conditions.

For a list of Southern California friendly plants and their specific needs, such as water, sun, soil, hydrozones, or nurseries, visit http://bewaterwise.com/Gardensoft/index.aspx.

Plant species with similar needs are selected and grouped within each hydrozone. It is also effective to create microclimate zones. Microclimate zones are variations of the climate within a given area, usually influenced by hills, hollows, structures or proximity to bodies of water. A microclimate differs significantly from the general climate of an area. Learn more about microclimates below under Step 1: Analyze ~~Your~~ the Site.

Each hydrozone will contain plants that will be irrigated on the same schedule, using the same irrigation method. Generally, each hydrozone is served by one valve or control zone (although more than one valve may be required to service an area due to flow and water pressure). By using controllers with multiple run times that are able to support low-volume systems, and by dividing the landscape into hydrozones, each area will receive the amount of water it needs without puddling or runoff.

By carefully ~~picking out~~selecting plants, grouping them together according to their water and other needs (such as sun vs. shade, climate, soil conditions, etc.), and using modern low-flow irrigation techniques, ~~you~~ one can drastically reduce the amount of water ~~you use~~needed, lower ~~your~~ water bills, save time by eliminating hand watering, generate less yard waste, and improve plant health.

To use the hydrozone approach, there are six ~~simple~~ steps to follow: analyze ~~your~~ the site, plan ~~your~~ the site, irrigate ~~your~~ the base plants, irrigate ~~you~~ the non-base plants, lay out the irrigation system~~,~~ and, finally, adjust and maintain the irrigation system.

Step 1: Analyze ~~Your~~ the Site

The first step to successfully using the hydrozone concept is to look over ~~your~~ the yard or garden carefully. Pay particular attention to the natural slope of the area, ~~your~~ the existing and planned plant species, the soil type(s), and ~~your~~ the general climate zone.

- **Natural Slope~~:~~**
  In general, ~~you should~~ try to group plants that have the highest water demand together at the highest point in your yard. When ~~you~~ watering ~~your~~ the yard or garden, the water drains into the soil and subsoil and begins to move downhill. ~~If you~~By putting the highest water demand plants at the high point of ~~your~~ the yard, any water that drains into the soil and subsoil will move down through ~~your~~ tje yard, helping water other plants and encouraging deep rooting. One may consider using low water use plants at the lower areas or base of the slope to where the water is eventually draining ~~to~~. This may eliminate the need to use any irrigation in this area of the yard or garden. It is also good to know that water uses of plants may vary, depending on where they are planted.



- **Plant Species~~:~~**
  Plant species can generally be grouped into three types of water users: high water users, moderate water users, and low water users.

- *High water users*: turf, ornamental or annual flowers, vegetable gardens and most other grasses need to be watered regularly and should be positioned to allow monitoring. Often high water use vegetation can be more delicate or fragile compared to the hardier low water users. Extra attention may be necessary for these plants to make sure they are healthy and being watered adequately.
- *Moderate water users*: perennial trees and flowers, shrubs and many of the plants identified in the County's ~~d~~Drought-~~tolerant~~ Tolerant ~~plant~~ Plant ~~list~~ List can often survive with little supplemental watering, which includes hand watering, irrigation, or any other external watering.
- *Low water users*: cacti, succulents, many native and Mediterranean plants, as well as established shrubs and trees, can often thrive without supplemental watering and do not need the same degree of care and maintenance as many other plants. It is important to note that often times, plants that fall under low water use may need additional water for a couple years to establish good growth and then may not need any supplemental watering after that to flourish.

Low water use~~rs~~ garden.

Most plant species can be grouped into one of the previous categories. ~~This information is just to help you get started.~~ Please refer to the references section and/or the drought-tolerant plant list for more complete information.

- **Soil Type~~:~~**
  ~~Knowing what kind of soil you have~~Understanding soil composition is critical to successful hydrozoning. If ~~your~~ the soil is sandy, water will percolate downward very quickly but will not move out laterally. If this is the case, one may want to use sprinklers for short intervals to water a larger area. If ~~your~~ the soil is a heavier, denser clay, the particles are frequently so compact that water spreads horizontally before it is able to penetrate down into the soil deep enough to reach the plants' root system. A drip line may be appropriate for this situation. This type of soil frequently experiences substantial runoff problems when watered. ~~In~~ Southern California~~, we have~~has both types of soil, and most sites are actually a combination of ~~both~~sand and clay. One universal problem, though, is that most soils in Southern California lack organic material. Because of the typical desert conditions of much of Southern California,

there is less plant material that has died and re-deposited itself into the ground as fertilizer. Many native plant species thrive in these soils~~, but~~; for those that do not, the use of additional fertilizers are common~~ly used~~. It is important to be careful ~~with~~ about how much and what fertilizers are being used because, often times, urban runoff carries the chemicals in fertilizers into local waterways and contributes to pollution.

- **Climate and Microclimate~~:~~**
  ~~Check~~ Refer to the Los Angeles County Drought-Tolerant and Native Landscape Planting Zones ~~map~~ Map to ~~see what kind of area you live in~~check the climate and microclimate for the site. The seven L.A. County climate zones are: Santa Catalina Island, Immediate Coast (Malibu to Long Beach), Los Angeles Basin ~~&~~ and San Fernando Valley, Santa Monica Mountains, San Gabriel Mountains ~~&~~ and Foothills, Interior Western Transverse Mountains, and Antelope Valley/West Mojave Desert. ~~Think about how hot your area gets in the summer, and how cold in the winter. Also, if you're n~~Near the coastal areas, ~~you'll need to~~one must also consider that humidity may dictate ~~your~~ plant choices. Microclimates are smaller areas of ~~your~~ the yard or garden where the normal temperature, amount of sun or shade, and reflected light and heat create special needs.

  For example, plants in sheltered areas with more direct sun surrounded by buildings or other structures that may absorb heat will need more water than plants in shady areas surrounded by lawn or other plants. An exception to this idea for microclimate zones is that plants with higher water needs are closest to the house or shaded areas and plants with lower water needs are on the perimeter of the garden or landscape. This is because, often times, perimeter plants get full exposure to the sun during the day while plants closer to a house or structure get some protection from the sun. Therefore, it can make sense to keep ~~your~~ higher water using plants out of full sun and keeping the soil in those areas more wet for longer periods. It all depends on the location and its surrounding environment.

Step 2: Plan ~~Your~~ the Site

It is critical to make an accurate, complete plan of ~~your~~ the yard or garden. The effort ~~you make~~ made during this step will save ~~you~~ considerable time and effort later. ~~If you~~When ~~are~~ planning a new yard or garden, ~~you~~ one can control more easily how plants are grouped and arranged. Plants with similar water requirements are grouped together. This means that the hydrozone groupings will naturally follow the physical layout of the yard or garden.

Revising or remodeling an existing yard or garden can be more challenging. ~~You will want to install s~~Separate irrigation line controllers should be installed so that plants with varying water demands can be watered individually according to their needs. Smart irrigation controllers, systems that keep water use to a minimum, are easily used and are now required under the County's Green Building Ordinance. The Ordinance requires that smart irrigation controllers shall be installed for any area of a lot that is landscaped or designated for future landscaping.

Step 3: Irrigate the Base Plant

In each planting area or hydrozone, ~~you will generally~~ select a main plant, or "base plant." The base plant is the plant in the hydrozone that requires the smallest amount of water each day. When ~~you~~ planning the ~~your~~ irrigation schedule, ~~you will~~ design each hydrozone's general watering system to irrigate the base plant, and then select appropriate irrigation systems for the remaining plants in the hydrozone that require more water than the base plants. For "worst case" irrigation you should establish water needs based on the hottest, driest day in the summer.

- **Adjusting for Climate and Microclimate~~:~~**
  When developing ~~your~~ the irrigation schedule, ~~you should~~ consider that most manufacturers establish their recommendation based on national averages. To adjust these recommendations for ~~your~~ a specific climate and microclimates, refer ~~below~~ to Step 4 below. However, ~~you should~~ always use caution when adjusting the irrigation schedule and observe ~~your~~ the plants to be sure they are getting the proper amount of water. Monitor for water and heat stress regularly, as described earlier under Step 1.

Step 4: Irrigate Non-Base Plants

Each hydrozone will have only one base plant. The remaining plants in each hydrozone ~~-~~ are "nonbase" plants. For each nonbase plant in each hydrozone, ~~you should~~ carefully determine each plant's water requirements. It is important to note that depending on how ~~your~~ the garden is set up (such as slope and soil conditions) and how ~~your~~ the hydrozone is arranged, supplemental watering may be needed. This can be achieved by different irrigation methods or hand watering. As in Step 3, the normal water demand of each plant should be adjusted as shown below:

- If the normal summer high temperatures in ~~your~~ the yard or garden is substantially above 90°F (32°C), and/or the normal relative humidity is below 50%, increase the water requirement for each non-base plant by 50 percent.
- If ~~your~~ the yard or garden is located in a cool climate, decrease the water requirement for each non-base plant by 50 percent.
- If ~~your~~ the yard or garden is in full sun throughout the day or it is surrounded by reflective structures or paving, increase the water requirement for each nonbase plant by 25 percent. (Caution: ~~you should~~ calculate this adjustment before any adjustments are made for climate.)~~.~~
- If ~~your~~ the yard or garden is in full shade throughout the day, decrease the water requirement for each non-base plant by 25 percent. (Caution: ~~you should also~~ calculate this adjustment before any adjustments are made for climate.)

The points mentioned above can be adjusted from either the recommended watering of the base plant or the recommendation of the manufacturer of the smart irrigation system,

depending on the system. The amount of adjustment depends on how "smart" ~~your~~ the irrigation system is.

Step 5: Layout the Irrigation System

Most yard and garden irrigation systems consist of two subsystems: sprinklers and low-flow emitters. Designing and laying out a low-flow hydrozone irrigation system is very similar to a conventional sprinkler system. Most low-flow systems rely on 1/2-inch rigid or flexible tubing connected to sprinkler heads that water the base plants and low-flow emitter heads and distribution tubing. These systems bring additional water directly to plants in each hydrozone that require more water than the base plants. Often, certain irrigation systems come with rebates when purchased.

Low-volume irrigation systems are shown above.

The key to these systems is the use of control valves and timers that allow ~~you to~~for adjusting the watering schedule with great precision. When laying out the location of sprinkler heads, take care to ensure even, complete coverage with individual spray heads selected to cover only the areas needing water. This will prevent waste and overspray from the sprinklers. Individual drip or low-flow emitters should be evenly spaced around each plant. Generally, it is good practice to place emitters half way between the trunk of the plant and its drip line (the edge of the foliage of the plant). These practices are important ~~to you~~ because, in Los Angeles, it is encouraged that sprinkler overspray not hit impervious surfaces and create water runoff or urban runoff. This is discussed in the Low Impact Development (LID) Ordinance, which is one part of the Green Building Program.

~~LOW-VOLUME IRRIGATION HYDROZONES*~~Low-Volume Irrigation Hydrozones

Area	Description of Plant Material	Emission Devices
1	Trees (sparse planting)	Root zone watering systems (with bubblers) or adjustable bubblers
2	Large shrubs (sparse planting)	Adjustable bubblers or single outlet emitters
3	Grouped plants - Shrubs, raised	Multiple outlet emission

	planters with vines, decorative containers (dense planting)	device with drip emitters (bug-type) and single outlet emitters or in-line pressure compensating dripline
4	Grouped plants - Shrubs, perennials, and ornamental grasses (dense planting)	In-line, pressure compensating dripline or multiple outlet emission device with drip emitters (bug-type) and single outlet emitters

This ~~graph~~ table shows what irrigation system works best with certain grouped plants. Hydrozones divide a landscape irrigation system based upon individual plant water requirements, plant height and planting density. Plant species with similar needs are selected and grouped within each hydrozone. Each hydrozone will contain plants that will be irrigated on the same schedule, using the same irrigation method.

Step 6: Adjust and Maintain the Irrigation System

During the first one or two months, carefully watch both the base and non-base plants for signs of heat or water stress. Signs of stress include wilting and blades of grass taking 2~~-~~ to 3 seconds or more to spring back up after being walked on. It is advisable to water generously initially, and then gradually reduce the watering schedule. Adjust the amount of water being given to each plant as necessary to avoid over- or under-watering. Check the wetting patterns around every plant to be sure that they're receiving water. Check every emitter head to make sure they're working and inspect all filters weekly. These filters are usually located at the start of the irrigation system where the water first enters. Low-flow emitters have very small openings that can become clogged with pipe scale such as rust and corrosion products adhering to the inner surfaces of pipes or other debris. If an emitter is clogged, use the manufacturer's recommended tool or method to clear the emitter. After the first month, you should inspect and clean all filters and emitters on a monthly basis. Also, check the individual timers and valves to make sure they're working. If plants show signs of heat or water stress, adjust the system as necessary. A good preventative maintenance practice is to flush the entire irrigation system each spring and fall to ~~flush~~ remove debris that may accumulate in the piping and valves. It may be as simple as ~~to~~ removing and cleaning a filter or installing flush valves at the end of the main line, but the best practice is to refer to the manual that came with your irrigation system for exact instructions.

Saving Money and Water

Hydrozoning is an ancient technique that really means nothing more than grouping plants together according to their water (as well as soil, nutrient, pH, etc.) needs. By carefully picking out plants, grouping them together according to their water and other needs, and using modern low-flow irrigation techniques, ~~you~~ one can drastically reduce the amount of water ~~you use~~required, lower ~~your~~ water bill, save time, and generate less yard waste.

Reducing water waste also ~~helps you get~~contributes to stronger, healthier plants by directly applying water to the root zones of plants, where it is needed and used more efficiently.

Low flow watering systems dispense a little water at a time giving your landscaping just the right amount of water that it needs. This system virtually eliminates water runoff and over-spray~~,~~ and minimizes evaporation, therefore saving water and money. Some examples of these systems are drip, trickle, and micro sprinklers which provide water in small volumes and generally target it to plants with less waste than furrow, surface or flooding irrigation. Because you can also adjust these systems to allow deep watering, you can also encourage plants to develop deep root systems, improving drought resistance. Low-volume systems can be as much as 95% efficient, compared with 60-70% for conventional systems.

Often, certain irrigation systems come with rebates when purchased. For a list of some rebate options, visit http://bewaterwise.com/rebates01.html.

Links ~~and References~~to Additional Information on Water Conservation, Hydrozoning and Irrigation

http://www.roseville.ca.us/eu/water_utility/water_conservation/for_home/cash_for_grass/low_maintenance_front_yard_landscape_plan.asp

http://bewaterwise.com/Gardensoft/index.aspx

http://ceeldorado.ucdavis.edu/files/15307.htm

http://en.wikipedia.org/wiki/Hydrozoning

http://www.conservewater.utah.gov/OutdoorUse/OtherPlants/#Hydrozoning

http://www.lcra.org/water/save/irrigation/index.html

Community Gardens

~~What is a~~Overview ~~Community Garden?~~

Community gardens are green spaces that are communally cultivated and cared for; these spaces may consist of individually worked plots, communally tended areas, sitting areas, and small-scale children's play areas. As collaborative projects, community gardens beautify neighborhoods and help bring neighbors closer together. They have been proven as tools to reduce neighborhood crime~~--~~particularly when vacant, blighted lots are turned into gardens. Community gardens provide safe, recreational green space in urban areas with little or no parkland, provide a level of food security, and can contribute greatly to keeping urban air clean.

~~There~~ As of 2010, there are approximately 70 community gardens in Los Angeles County~~,~~ serving 3,900 families, and an estimated 10,000 community gardens in cities across the United ~~.~~States~~. cities~~. Community gardens are open to all who apply, though space in gardens is in high demand and most have extensive waiting lists for open plots.

Los Angeles County and Community Gardens

There are ~~few different~~several actions currently being taken by and within the County in relation to community gardens.

The General Plan Update and Community Gardens

The Draft General Plan Update (2008) contains the following policy and implementation action~~s~~:

- Policy C/~~OS5~~OS6.8: Expand countywide community garden and urban farming programs.
- Implementation Action C/~~OS10~~OS6.1: Work with the Community Development Commission and other stakeholders to expand community garden programs and to identify County-owned parcels and other potential sites for community gardens.

Common Ground Garden Program, University of California Cooperative Extension, Los Angeles County Division of Agriculture and Natural Resources~~.~~

Since 1978, UC Cooperative Extension's Common Ground Program has made gardening possible for many Los Angeles County residents, particularly low-income and traditionally underrepresented families. The program goals are to: improve nutrition; increase access to fresh, low-cost produce; offer gardening education; build bridges between neighbors and communities; and, help create employment opportunities in Los Angeles.

Families in the program learn how to garden, grow their own food and prepare it in a healthful manner. In addition, the program trains community volunteers and Master Gardeners~~,~~ who, in

turn, volunteer their time to community and school gardens. The program also has ~~available~~ an online ~~guide,~~ step-by-step guide ~~process~~ for starting a community garden, as well as other valuable gardening resources.

SPOTLIGHT: The UC Cooperative Extension Community Garden Startup Guide, Step-by-step Process, In Summary

Interested parties. Make sure there are enough people in the community willing to commit to the garden. It is recommended that there be at least ten interested families to create and sustain a garden project.

Working group. Running a garden efficiently takes organization. Forming a working group or garden club with officers is a good way to formally organize the group so that decisions can be made and work divided up. It also ensures that everyone has a vested interest in the garden and can contribute to its design, development, and maintenance. The typical club will have many functions, including: establishing garden rules, accepting and reviewing garden applications, making plot assignments, collecting garden dues (if any), paying water bills, and resolving conflicts.

The Land. The group must go through the process of locating a vacant piece of land in their community, finding out from the local water provider if the proposed site has water, and then finding out from the County assessor who owns the land.

Contacting the Land Owner and Signing a Lease. The landowners of the potential sites must be contacted for permission to use the property for a community garden. Establish a term for use of the site, and prepare and negotiate a lease. Typically, groups lease garden sites from landowners for $1 per year. A minimum of a three-year lease should be negotiated. A simple "hold harmless" waiver should be in the lease and in gardener agreement forms. Further, liability insurance should be purchased.

Planning the Garden. Using a map of the site, the garden should then collaboratively be planned, designed, and set-up in the working group meetings.

Where to Get Materials and Money. Oftentimes, donations of materials can be obtained for the garden. Community businesses might assist and provide anything from fencing to lumber to plants. Money for non-donated items can come from personal sources, fundraisers, or applying for grants.

Los Angeles Community Garden Council (LACGC).

The LACGC is a non-profit corporation, comprised of members from the Los Angeles Conservation Corps, Los Angeles Neighborhood Land Trust, the University of California Cooperative Extension Common Ground Program, the Trust For Public Land, the Verde Coalition, and the National Park Service. The LACGC connects people in Los Angeles County with community garden space in their neighborhood. Community gardens and the LACGC work together to build, manage, and advocate for community gardens.

The Growing Experience.

Established in 1996, The Growing Experience is a joint program of the Housing Authority of the County of Los Angeles and the University of California Cooperative Extension Program. Based at the Carmelitos housing community in the City of Long Beach., The Growing Experience nursery and community garden was developed to grow fruits and vegetables for low-income families and senior citizens in the community. Over 60 low-income families who are residents of the Carmelitos housing development have their own individual raised plot in the community garden. The Growing Experience is a training ground for Southern California's green industries, and it also has provided opportunities for several participants to become gainfully employed and make the move from public housing to owning their own homes. In addition, the program helps participants to set goals for themselves, provides the skills, and builds the confidence and esteem they need to successfully meet their goals. The Participants participants in the program gain broad knowledge of landscaping, irrigation, horticulture, nursery management and floral design.

How isEstablishing a Community Garden established?

Community gardens are established in a couple of different ways. Sometimes, members of a community on their own will decide that they would like to start a community garden. In other communities, the local jurisdiction will be the one to establish gardens.
When a community has decided to set up their its own garden, they it typically goes through a step-by-step process to establish it. The UC Cooperative Extension has developed a recommended process for people that who want to set up a garden in their community (see insert). Other times, a city or county's community gardens are established and managed by the local jurisdiction. Such is the case with the City and County of San Francisco and the city of Seattle. San Francisco's community gardens are established and managed by the Recreation and Parks Department. In Seattle, the city-wide community gardening program is managed by the Department of Neighborhoods.

How isMaintaining a Community Garden maintained?

Whether the community gardens in a city are managed by the local jurisdiction or by the community members, all gardens are typically maintained by the community members involved in the garden. Most community gardens require that each member dedicate a minimum number of hours each month or year to the maintenance of the larger garden.

What types of pPolicies or and ordinances Ordinances have other cities and counties eEstablished for community Community gardensGardens?

Community garden policies can take many forms, and community gardens are not only affected by garden-specific regulations, but also by broader policy, such as open space regulations. Some cities, like Boston and Cleveland, have established a specific zoning category for gardens as part of their zoning code for open space. The Chicago City Council created a city-funded entity called NeighborSpace which is authorized to purchase properties

to protect them as open space and to enter into agreements with ~~—~~local groups for the use and maintenance of these spaces, including community gardens.

~~Some things that might be addressed in a z~~Zoning ordinance~~s are~~ may address accessory structure heights, uses and parking. An example of a parking standard ~~might be~~is a minimal requirement, such as one space per every 5,000 square feet in excess of 40,000 square feet of garden area. Community gardens are designed to be accessible to the community, which ideally means within walking or biking distance of its members.

Other cities make more specific designations for community gardens. The city of Seattle and city and county of San Francisco are examples of communities that manage, operate and actively expand the community garden programs in their jurisdictions.

Community gardens in Los Angeles County are primarily created and managed on their own, by community members. Though assistance is available through the various mentioned programs and organizations, there is no central managing body.

The following table offers a sampling of what some other cities are doing to promote and support community gardens.

City/County	Type of Program or Policy and Brief History
San Francisco	Since 2004, the City and County have taken a direct role in the management of ~~its~~ their community gardens through its Recreation and Parks Department. Although many of the gardens were operating under very similar guidelines and structure, an overall policy was lacking. In 2005, ~~A~~ the Community Gardens Policy Committee was formed to develop garden standards and Citywide guiding policies. This committee is comprised of stakeholders representing local community gardens, the San Francisco Garden Resource Organization, the Parks, Recreation and Open Space Advisory Committee and City agencies. The mission of the Community Gardens Policy Committee is to ~~further~~ implement the San Francisco General Plan, which calls ~~of~~ for expanding community garden opportunities throughout the City by establishing policies and implementing garden standards. The Recreation and Parks Department supports and manages a program of 40 community gardens on City-owned property. Each garden is operated by a group of committed volunteers for growing ornamentals and produce for personal use through individual or shared plots. A membership fee is often self-imposed by its members to cover common expenses; however, the community garden program is funded through the Park, Recreation and Open Space Fund, which is an annual set-aside of property taxes towards the enhancement of park and recreational services and facilities.

Seattle	The City's community garden program is managed by the Department of Neighborhoods, and is in very high demand with hundreds on waiting lists for space in community gardens throughout the city. In 2000, the city adopted the P-Patch Program 2001-2005 Strategic Plan to help implement the City's Comprehensive Plan that established a goal of one community garden for every 2,500 households in an urban village and urban center. The Department of Neighborhoods has a goal of developing at least four additional community gardens per year with emphasis given to the City's higher density areas. The gardens are located on surplus City land holdings or leased on private land; however, funds are sought ~~out~~ to acquire currently leased garden sites. The city retains staff specifically to manage the garden program.
Chicago	In 1996, the Chicago City Council created a city-funded entity called NeighborSpace which purchases properties to protect them as open space and to enter into agreements with local groups for the use and maintenance of these spaces for community gardens and other open green spaces.
Boston	In conjunction with its open space district, the City ~~also~~ created nine Open Space Subdistricts, one of which is for community gardens, as a comprehensive means for protecting and conserving these lands through regulation. An open space subdistrict may be established on any land contained within one or more open space districts, provided that such land is owned by a Public Agency or by a private person, entity, or conservation trust which consents in writing to the establishment of an open space subdistrict on such land. The Boston Natural Areas Network also plays a key role in the city's gardens. BNAN, in partnership with many non-profit organizations and government agencies that own community gardens, helps coordinate activities related to all of the Boston area's community and school gardens. In addition to providing support for all the city's gardens, BNAN permanently protects through ownership 40 community gardens; in effect, one of Boston's largest land trusts.
Cleveland	The City created a new zone called the Urban Garden District to ensure that urban garden areas are appropriately located and protected to meet needs for local food production, community health, community education, garden-related job training, environmental enhancement, preservation of green space, and community enjoyment on sites for which urban gardens represent the highest and best use for the community. Standards set forth in the ordinance include permitted main uses and accessory uses, as well as standards such as setbacks, maximum building coverage of the site, parking and fences.

Issues surrounding Community Gardens

One of the primary issues relating to public gardens is land ownership. Gardens are often on lands with temporary leases from private or public owners, or have revocable permits. Such was the recent case of the 14-acre South Central Community Garden, which was in operation between 1994 and 2006, and considered one of the largest urban farms in the country. The land was sold in 2004, and the farmers were evicted in 2006.

The South Central Farmers, a group consisting of approximately 350 families from the neighboring community, are a self-governing organization that had transformed the property from a junk filled space into one of the largest urban gardens. However, the property had a long history ~~of~~ with several different owners, and was in the midst of a tangle of land ownership disputes, involving both public and private ownership. Ultimately, in 2006, the farmers were evicted from the land, as part of a court order. The dispute still continues~~,~~ and raises concerns over the role of gardens on vacant lands when it comes to the rights of landowners and the protection of these valuable green growing spaces.

Links to Community Garden Resources

Boston, City of. Community Garden Zoning Code
http://www.bostonredevelopmentauthority.org/pdf/ZoningCode/Article33.pdf

Boston Natural Areas Network
http://www.bostonnatural.org/communitygardens.htm

Cleveland, City of. Urban Garden District Zoning Ordinance
http://www.mayorsinnovation.org/pdf/Cleveland_CG_zoning_ord.pdf

County of Los Angeles Department of Public Works' Countywide Smart Gardening Program
http://dpw.lacounty.gov/epd/sg/

The Growing Experience
http://www3lacdc.org/CDCWebsite/TGE/Home.aspx

Los Angeles Community Garden Council
http://lagardencouncil.org/index.php?option=com_content&task=view&id=22&Itemid=39

Municipal Research and Services Center of Washington
http://www.mrsc.org/Subjects/Parks/comgarden.aspx

San Francisco Recreation and Parks Community Gardens Policy Committee
http://www.parks.sfgov.org/site/recpark_index.asp?id=27041

Seattle (City of) Resolution for the P-Patch Community Gardens
http://www.cityofseattle.net/neighborhoods/ppatch/aboutPpatch.htm

South Central Farm, Information
http://en.wikipedia.org/wiki/South_Central_Farm

UC Cooperative Extension Los Angeles County Division of Agriculture and Natural Resources, Community Garden Start-up Guide
http://celosangeles.ucdavis.edu/garden/articles/startup_guide.html

RESOURCES

There are a wide variety of green products and materials available on the market for ~~both~~ construction, remodeling, and retrofitting projects. These products are designed to make a home or building more environmentally friendly and energy efficient. There are also special materials that have lower impacts on indoor air quality compared ~~to~~ with materials that are more commonly used.

Global Green USA, a non-profit organization, actively promotes building green. They have a wealth of resources on various materials that can be utilized to make the home more "green." Some of these resources provided from Global Green USA have been included here in the Guidelines for informational purposes only. No products listed here are endorsed or mandated by the County; these are suggestions. Many equivalent "green" alternatives are available at most home improvement stores and specialty shops. Other resources will be added to the Guidelines as they become available.

The following pages contain details about building materials for most aspects of a home or building that are intended to create fewer impacts on the indoor and outdoor environment within and around the building. These materials include:

- Flooring and Carpeting
- High Efficiency Appliances, Fixtures, Windows and Toilets
- Heating and Cooling
- Insulation Doors
- Landscaping and Paving
- Paints, Sealants and Stains
- Roofing
- Lighting
- Certified and Recycled Wood Materials
- Water Systems

There are additional guidelines and manuals, not listed in these Guidelines, which may be used towards greening a home or building. Some of these guidelines and standards come from government sources, such as California Energy Commission and from nonprofit organizations that provide both government and nongovernment guides. The links for these are provided in the next section, Additional Resources for Green Buildings. They are provided for informational purposes only and have not been reviewed or approved for use in lieu to meet the County's Green Building~~s~~ requirements.

Green Building Resources

There are many resources available to help consumers, developers, builders, and property owners ~~with making their buildings more~~increase energy-efficiency and ~~use~~ reduce ~~less~~ water use. They include links to third party certification programs and checklists, California's green ~~inititatives~~initiatives, nonprofit organizations that serve~~s~~ as clearinghouses on the use of green building materials, and general links that promote green lifestyles, resource conservation, and awareness of local and global environmental issues.

Third Party Certification Programs and Checklists

United States Green Building Council
Leadership in Environmental and Energy Development (LEED)
~~Web:~~ www.usgbc.org
www.greenhomeguide.org
www.regreenprogram.org

Build It Green
GreenPoint Rated (GPR)
~~Web:~~ www.builditgreen.org

~~Building Industry Institute~~
~~California Green Builder (CGB)~~
~~Web: www.cagreenbuilder.org~~

State Green Initiatives

Green California
~~Web:~~ www.green.ca.gov

California Integrated Waste Management Board—Green Building
~~Web:~~ www.ciwmb.ca.gov/greenBuilding

California Energy Commission—Green Building
~~Web:~~ www.energy.ca.gov/greenbuilding
www.energy.ca.gov/title24

Green Building Certification Programs

Green Building Certification Institute
~~Web:~~ www.gbci.org

Green Advantage
~~Web:~~ www.greenadvantage.org

Green Materials and Clearinghouses

American Lung Association Health House
www.healthhouse.org

American Society of Heating Refrigerating and A/C Engineers
www.ashrae.org

Building Green
www.buildinggreen.com

California Lighting Technology Center
www.cltc.ucdavis.edu

~~Database of State Incentives for Renewables and Efficiency (DSIRE)~~
~~www.dsireusa.org~~

Earth Advantage
www.earthadvantage.com

Energy Star
www.energystar.gov
~~www.energystar.gov/index.cfm?c=new_homes.hm_index~~

Environments for Living
www.environmentsforliving.com

The Gas Company—Energy Efficiency
www.socalgas.com/energyefficiency

Green Building Initiative
www.thegbi.org

Green Building Resource Center
http://www.globalgreen.org/greenurbanism/buildingresources/

Greenguard Environmental Institute
www.greenguard.org

Greener Buildings
www.greenerbuildings.com

Healthy House Institute
www.healthyhouseinstitute.com

National Association of Home Builders – NAHB Green Building Program
www.nahbgreen.org

Scientific Certification Systems
~~Web:~~ www.scscertified.com

Green Organizations, Programs, and Initiatives

California Environmental Education Interagency Network
~~Web:~~ www.ceein.org
~~Mission:~~ CEEIN is a consortium of environmental educators representing California state departments, boards, and commissions with oversight responsibility to protect California's environment.

California Parks and Recreation Society
7179 Freeport Blvd.
Sacramento, CA 95832-9701
Phone: (916) 665-2777
~~Web:~~ www.cprs.org
~~Mission:~~ The California Park & Recreation Society provides the leadership to advance the positive impact and value of the profession. CPRS is the strongest professional networking structure available to park, recreation and leisure service professionals in California today.

Earth Day Los Angeles
1216 S. Westlake Avenue
Los Angeles, CA 90006
Phone: (888) 295-8372
Fax: (310) 362-8400
~~Email:~~ Info@EarthDayLA.org
~~Web:~~ www.earthdayla.org
~~Mission:~~ Earth Day is organized every year by over 4,000 organizations in 168 countries around the world. National and local groups are developing a multitude of activities during the month of April, which are expected to involve hundreds of millions of people worldwide, in a grassroots call for clean energy solutions to global warming.

Global Green USA
2218 Main Street, 2nd Floor
Santa Monica, CA 90405
Phone: (310) 581-2700
Fax: (310) 581-2702
www.globalgreen.org

A national environmental organization addressing some of the greatest challenges facing humanity: stemming global climate change by creating green buildings, and cities; and, providing clean, safe drinking water for the 2.4 billion people who lack access to clean water.

Green LA, Los Angeles Department of Water and Power
P.O. Box 51111
Los Angeles, California 90051-0100
1-800-GREEN LA (1-800-473-3652)
Web: www.greenla.com
Mission: The Los Angeles Department of Water and Power is committed to support and embrace environmental efforts that will improve the quality of life in the City of Los Angeles. The Department offers a number of environmental programs, that enable you to take action and become involved. The environmental Green LA programs including: Trees for a Green LA, Energy Efficiency for a Green LA, Solar Energy for a Green LA, Electric Vehicles for a Green LA, Green Power for a Green LA, Recycling for a Green LA and Educational Services for a Green LA.

Greenopia
559 San Ysidro Road, Suite 6
Santa Barbara, CA 93108
Phone: (805) 969-0985
Fax: (805) 969-0966
Web: www.greenopia.com
Mission: Guide to help you make informed choices for leading a greener life—wherever you live—by sharing our researched listings for eco-friendly businesses and organizations, plus tips and features.

Liberty Hill Foundation
2121 Cloverfield Boulevard, Suite 113
Santa Monica, CA 90404
Phone: (310) 453-3611
Fax: (310) 453-7806
Web: www.libertyhill.org
Mission: Partners with and provide grants to grassroots organizations involved in combating poverty and injustice in the City of Los Angeles. Also supports green building programs.

Los Angeles County Department of Public Works
900 South Fremont Avenue
Alhambra CA 91803
Phone: 458-5100
Web: www.ladpw.org
Mission: Enhancing our communities through responsive and effective public works services.

The Love Planet Foundation
12438 Moorpark Street, Suite 313
Studio City, CA 91604
Phone: (310)737-9148

~~Web:~~ www.loveplanetfoundation.org
~~Mission: is t~~To make a difference through revenue from donations, music downloads, high profile creative projects, innovative fund raisers, and media events. ~~We p~~Provides education, support, and monetary assistance relating to social and environmental issues.

Mountains Recreation and Conservation Authority (MRCA)
570 West Avenue 26, Suite 100
Los Angeles, CA 90065
Phone: (323) 221-9944
Fax: (323) 221-9934
~~Web:~~ www.mrca.ca.gov
~~Mission:~~ The MRCA is dedicated to the preservation and management of local open space and parkland, watershed lands, trails, and wildlife habitat.

National Audubon Society
Main Office: 225 Varick Street, 7th Floor
New York, NY 10014
Phone: (212) 979-3000
~~Web:~~ www.adubon.org
~~Mission:~~ Audubon's mission is to conserve and restore natural ecosystems, focusing on birds, other wildlife, and their habitats for the benefit of humanity and the earth's biological diversity. ~~Our n~~National network of community-based nature centers and chapters, scientific and educational programs, and advocacy on behalf of areas sustaining important bird populations, engage millions of people of all ages and backgrounds in positive conservation experiences.

National Recreation and Park Association
22377 Belmont Ridge Rd.
Ashburn, VA 20148
Phone: (703) 858-0784
Fax: (703) 858-0794
Email: info@nrpa.org
~~Web:~~ www.nrpa.org
~~Mission:~~ To advance parks, recreation and environmental conservation efforts that enhance the quality of life for all people.

Planet Green
20724 Lassen Street
Chatsworth, CA 91311
National Toll Free: (800) 377-1093
Local Phone: (818) 725-2596
Fax: (818) 772-0816
~~Web:~~ www.planetgreeninc.com
~~Mission:~~ The cartridge and cell phone recycling program was designed to improve the environment by keeping empty cartridges and cell phones out of our landfills.
~~Waste is an environmental problem, which affects us all.~~

Plan-It Hardware
1555 Pacific Ave.
San Francisco, CA 94109
Phone: Toll Free (877) 359-9914
Direct (415) 359-9914
~~Web:~~ www.planithardware.com
~~Mission: PLAN-IT Hardware is about m~~Making "green hardware" mainstream ~~—~~by making it easy for local, independent hardware stores and home improvement centers to offer greener, healthier, more energy efficient products.

Rivers and Mountains Conservancy
100 N. Old San Gabriel Canyon Road
Azusa, CA 91702
Phone: (626) 815-1019
Fax: (626) 815-1269
~~Web:~~ www.rmc.ca.gov
~~Mission: Our mission is t~~To preserve open space and habitat in order to provide for low-impact recreation and educational uses, wildlife habitat restoration and protection, and watershed improvements within ~~our~~ its jurisdiction.

San Gabriel Mountains Regional Conservancy
P.O. Box 963
Glendora, CA 91740
Phone/Fax: (626) 335-1771
(626) 335-1771
Email: glcroissant@csupomona.edu
~~Web:~~ www.sgmrc.org
~~Mission:~~ To promote the preservation of land and/or buildings for historic, educational, ecological, recreational, or open space opportunities.

~~Terrapass~~TerraPass
527 Howard St., 4th Floor
San Francisco, CA 94105
Phone: Toll Free: (877) 210-9581
Direct: (415) 692-3411
~~Web:~~ www.terrapass.com
~~Mission: Balance your carbon footprint with TerraPass. When you buy a~~ TerraPass~~, your~~ money funds clean energy and efficiency projects, such as wind farms, that ~~. These projects~~ result in verified reductions in greenhouse gas emissions.

~~Resources for~~ Landscaping Resources ~~Materials~~

Finding ways to reduce the amount of water used in landscaped areas will conserve water across the region and can significantly reduce water costs per month. This guide is an introduction to some of the technologies, species and practices available to help us reach this goal. The resource links provided offer more information on various aspects of drought-tolerant landscaping and should be referenced where needed.

~~Audubon Center at Debs Park~~
~~4700 North Griffin Avenue~~
~~Los Angeles, CA 90031~~
~~Phone: (323) 221-2255~~

~~Mission: Audubon's mission is to conserve and restore natural ecosystems, focusing on birds, other wildlife, and their habitats for the benefit of humanity and the earth's biological diversity. Our national network of community-based nature centers and chapters, scientific and educational programs, and advocacy on behalf of areas sustaining important bird populations, engage millions of people of all ages and backgrounds in positive conservation experiences.~~

California Native Plant Society
2707 K Street, Suite 1
Sacramento, CA 95816-5113
Phone: (916) 447-2677
Email: cnps@cnps.org
~~Web:~~ www.cnps.org
~~Mission: The mission of the California Native Plant Society is t~~To increase understanding and appreciation of California's native plants and to conserve them and their natural habitats through education, science, advocacy, horticulture and land stewardship.

Chapters:

Channel Islands
~~The Channel Islands Chapter c~~Covers south coastal Santa Barbara County, Ventura County~~,~~ and the westernmost portions of the San Fernando Valley.
http://www.cnpsci.org/

Los Angeles-Santa Monica Mountains
~~The Los Angeles-Santa Monica Mountains Chapter h~~Has membership from throughout the Los Angeles Basin, Santa Monica Mountains and San Fernando Valley, with most from Los Angeles.

http://lasmmcnps.org/

San Gabriel Mountains
~~The San Gabriel Mountains Chapter s~~Services the San Gabriel and eastern San Fernando Valleys.
http://www.cnps-sgm.org/

South Coast
~~The South Coast Chapter s~~Services the coastal areas near the Palos Verdes Peninsula.
http://www.sccnps.org/

Mojave Desert Chapter
~~The Mojave Desert Chapter c~~Covers most of the northern and eastern portions of San Bernardino County~~.~~, including the Antelope Valley ~~included~~.
http://www.mojavecnps.org/Index.html

City of Los Angeles, Bureau of Sanitation
Free Mulch Program

~~Web: ~~www.lacitysan.org/srpcd/mulch-giveaway.htm
~~Mission: The LA Bureau of Sanitation's mission is to protect public health and the environment.~~
www.cityofla.org/san/solid_resources/pdfs/Mulching_Poster.pdf
To protect public health and the environment.

Metropolitan Water District of Southern California
700 N. Alameda
Los Angeles, CA 90012
Phone: (800) CALL-MWD
~~Web: ~~www.bewaterwise.com
~~Mission: ~~Site filled with water saving tips, rebates, upcoming events and educational resources regarding saving water in California.

Northeast Trees
W. Ave. 26, Suite 200
Los Angeles, CA 90065
Phone: (323) 441-8634
~~Web: ~~www.northeasttrees.org
~~Mission: North East Trees is a~~A nonprofit environmental and youth education organization with a mission "to restore nature's services to improve the quality of life in resource-challenged communities."

Theodore Payne Foundation
10459 Tuxford Street
Sun Valley, CA 91352-2116

Phone: (818) 768-1802
Web: http://www.theodorepayne.org/
Plant Library: www.theodorepayne.org/gallery/glossary.htm
Mission: The Foundation's mission is tTo promote and restore California landscapes, and habitats; to propagate and make available California native plants and wildflowers; and to educate and acquire knowledge about California flora and natural history.

Tree People
12601 Mulholland Drive
Beverly Hills, CA 90210
Phone: (818) 753-4600
www.treepeople.org
Mission: Tree People's mission is tTo inspire the people of Los Angeles to take personal responsibility for the urban forest – – educating, training and supporting them as they plant and care for trees and improve the neighborhoods in which they live, learn, work and play.

Native Plant Resources

Crescenta Valley Water District Demonstration Garden
Web: www.cvwd.com/Water-Conservation-Demonstration-Garden.aspx

Las Palita Nursery
Web: http://laspilitas.com

Las Palitas plants by zip code:
http://www.laspilitas.com/comhabit/zipcode.htm

Metropolitan Water District of Southern California
Web: www.bewaterwise.com

Rancho Santa Ana Botanic Garden, Claremont
Web: http://www.rsabg.org/

Santa Monica Mountains Local Coastal Plan Technical Appendices – on planting in the Mountains
Web: http://planning.lacounty.gov/assets/upl/project/coastal_technical-appendiceswith-maps.pdf

Urban Wildlands
Web: http://www.urbanwildlands.org/

Resources in Print

Bornstein, Carol, David Fross, and Bart O'Brien. California Native Plants for the Garden. Cachuma P, 2005.

Brenzel, Kathleen Norris, ed. Sunset Western Garden Book. Sunset Books, 2007.

"Los Angeles River Master Plan, 2004: Landscaping Guidelines and Plant Palettes". Los Angeles County Department of Public Works.

O'Brien, Bart, Betsy Landis, and Ellen Mackey. Care & Maintenance of Southern California Native Plant Gardens. Metropolitan Water District SC, 2006.

Perry, Bob. Landscape Plants for Western Regions. Land Design, 1992.

INCENTIVES

Incentives

Overview

Building green can be expensive. Fortunately, there are many grant and loan programs available at the local, state and national levels that will help offset the expenses involved in building green. These funding programs help with the purchase of green technology and to make the home or building more energy efficient, and to use green energy to power them. Many cities and counties, utility companies, manufacturers and lenders will offer incentives, rebates, low-interest loans, grants, and discounts to help consumers purchase energy-efficient devices and appliances, solar panels, and wind turbines, and help them build green homes and buildings. There are also programs to help consumers replace their aging, less-efficient products with newer efficient ones. Finally, Iincentives also include programs to help low-income households and small businesses with utility payments for tapping into cleaner green energy to power their homes and businesses.

On tThe following pages contain descriptions of and links to are printouts from various sources where incentives are currently (as of March 2011) available to qualifying consumers and businesses.
These incentives are available as of February 2010, so please check the websites to see that these incentives are currently available. Many have specific deadlines to apply. There will be many new incentive programs which are not included in these Guidelines, but as soon as staff is aware of these, they will be included. The recently passed American Recovery and Reinvestment Act of 2009 has made funding available to the "green industry; " at this time staff is investigating new programs that may be implemented with this federal stimulus funding that the consumers can take advantage of. As soon as they are identified, they will be included in the Guidelines, so check back periodically for updates.

Incentive Programs

Database of State Incentives for Renewables and Energy
www.dsireusa.org
Provides a comprehensive listing of green incentives, categorized by state, with additional useful links.
One of the best sources to find a comprehensive listing of green incentives is the Database of State Incentives for Renewables and Energy, located at .Most incentives listed there are broken down by states where they are available. Many useful links are posted on the website as well.

Enterprise: Los Angeles Green Grant Program
http://www.enterprisecommunity.org/local_work/los_angeles/los_angeles_green_grant.asp

Provides energy-efficiency upgrades free of charge to low-income homeowners who qualify in unincorporated areas of East Los Angeles, Belvedere, City Terrace or Eastmont Brought to you by Community Development Block Grant funds allocated to the First Supervisorial District.

Los Angeles Department of Water and Power Non-Residential Rebates and Programs
http://www.ladwp.com/ladwp/cms/ladwp001859.jsp
To assist commercial, industrial, institutional, and governmental customers in using energy and water more efficiently, saving money, and improving our environment.

Los Angeles Department of Water and Power Residential Rebates and Programs
http://www.ladwp.com/ladwp/cms/ladwp001860.jsp
To assist residential customers in using energy and water more efficiently, saving money, and improving our environment.

The Metropolitan Water District of Southern California's Save Water Save a Buck Program
http://www.mwdsaveabuck.com/
Provides eligible Southern California businesses with cash rebates on a wide variety of water-saving technologies and outdoor landscaping equipment to help encourage water efficiency and conservation.

The Metropolitan Water District of Southern California's SoCal Water$mart Program
http://www.socalwatersmart.com/
A limited number of rebates are currently available for high-efficiency clothes washers, rotating sprinkler nozzles (minimum of 25), weather-based irrigation controllers, or "smart" controllers. Rebates are issued on a first-come, first-served basis until funding is exhausted.

~~INSERT **DATABASE OF STATE INCENTIVES FOR RENEWABLES & EFFICIENCY (DSIRE) INCENTIVES/POLICIES FOR RENEWABLES & EFFICIENCY SHEETS** HERE~~

~~INSERT COUNTY OF LOS ANGELES OFFICE OF THE ASSESSOR~~ **~~INITIAL PURCHASER CLAIM FOR SOLAR ENERGY SYSTEM NEW CONSTRUCTION EXLUSION~~**

~~**INSERT ENTERPROCE: LOS ANGELES GREEN GRANT PROGRAM SHEET, APPLICATION CHECKLIST, QUALIFICATIONS, AGREEMENT, PROGRAM APPLICATION HERE**~~

~~**INSERT METROPOLITAN WATER DISTRICT'S SOCAL WATER SMART REBATE APPLICATIONS FOR RESIDENTIAL HIGH-EFFICIENCY AND RESIDENTIAL LANDSCAPE, AND WATER-WISE TIP SHEETS**~~

~~REFERENCES~~

References

This page will list the names, addresses, and contacts of Green Building, Low Impact Development, and Drought Tolerant Landscaping experts approved by the Green Buildings Implementation Task Force for consultation on development projects that are required by ordinance to implement green building standards, and in some cases required to have a Green Design team.

Coming soon.